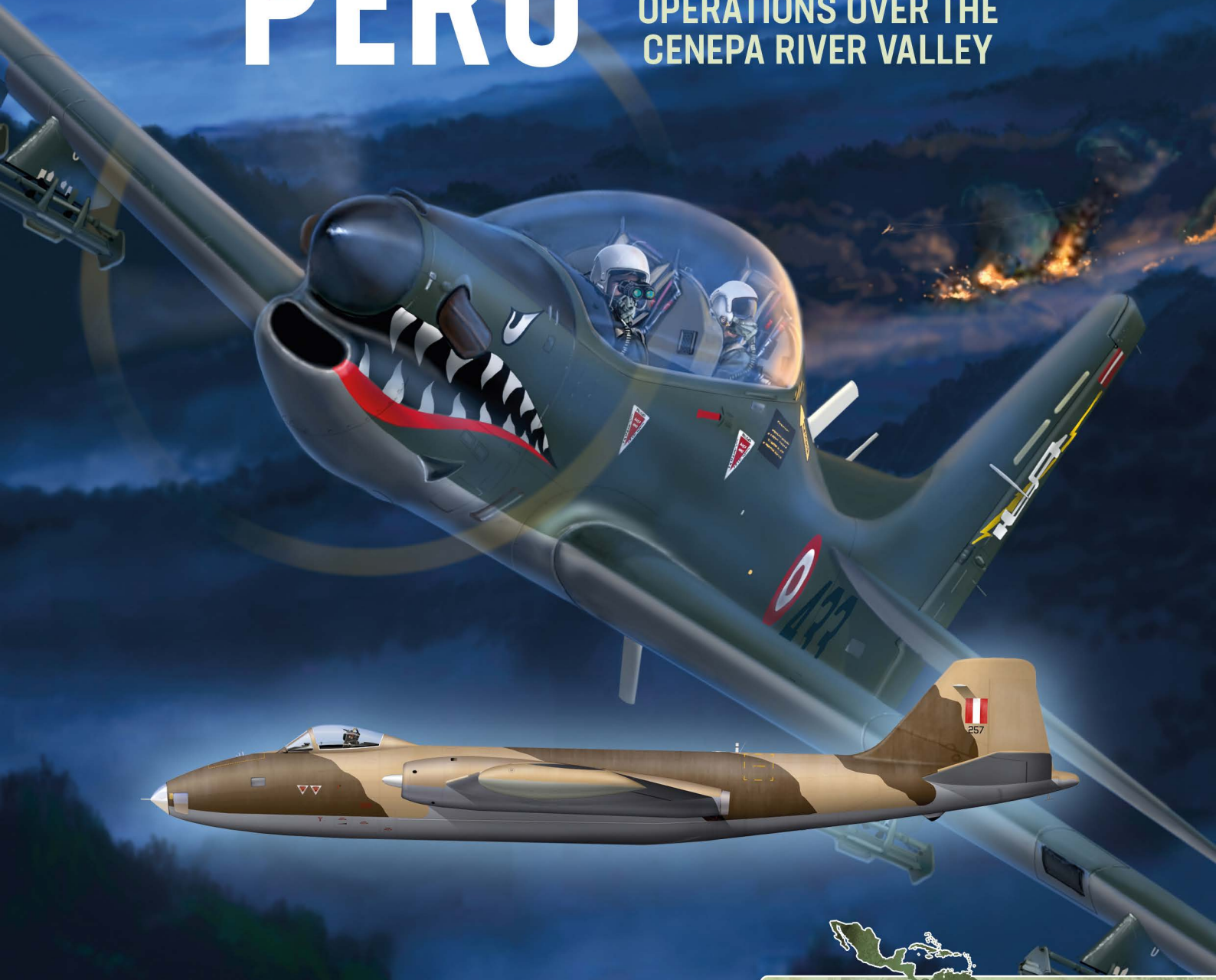


AIR WARS BETWEEN ECUADOR AND PERU

VOLUME 3: AERIAL
OPERATIONS OVER THE
CENEPÁ RIVER VALLEY



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CONTENTS

| | |
|---|----|
| Abbreviations | 2 |
| Acknowledgements | 2 |
| Preface | 3 |
| 1 Background | 3 |
| 2 Opposing Forces | 5 |
| 3 Aerial Operations 25 January – 14 February 1995 | 29 |
| 4 Ceasefire | 57 |
| 5 Aftermath | 61 |
| 6 Peace and Beyond | 68 |
| Bibliography | 79 |
| Notes | 79 |
| About the Author | 80 |



ABBREVIATIONS

| | | | |
|----------------|--|---------------|--|
| AA | Ala Aérea (Air Wing, FAP) | ELINT | Electronic Intelligence |
| AB | Air Base | EMA | Escuadrón de Mantenimiento (Maintenance Squadron, FAP) |
| AdE | Aviación del Ejército (Army Aviation, AdE, Peru) | EP | Ejército del Perú (Peruvian Army) |
| AEA | Aviación del Ejército de Ecuador (Ecuadorian Army Aviation) | ER | Escuadrón de Rescate (Rescue Squadron, FAP) |
| AMD-BA | Avions Marcel Dassault-Breguet Aviation (France) | ER | Escuadrón de Reconocimiento (Reconnaissance Squadron, FAP) |
| AEE | Aviación del Ejército del Ecuador (Ecuadorian Army Aviation) | ET | Escuadrón de Transporte (Transport Squadron, FAP) |
| ASCC | Air Standardization Coordinating Committee | FAA | Fuerza Aérea Argentina (Argentinian Air Force) |
| BAE | Buque Armada Ecuatoriana (Ecuadorian Navy Ship; equivalent use to HMS/Her Majesty's Ship in the Royal Navy or USS/United States Ship in the US Navy) | FAE | Fuerza Aérea Ecuatoriana (Ecuadorian Air Force) |
| BAT | Batallón de Asalto y Transporte 811 (Assault and Transport Battalion, EP) | FAP | Fuerza Aérea del Perú (Peruvian Air Force) |
| BIS | Batallón de Infantería de Selva (Mountain Infantry Battalion, Peru) | GA | Grupo Aéreo (Air Group/Wing, FAP) |
| CAP | Combat Air Patrol | GAE | Grupo Aéreo del Ejército (Army Air Group, Ecuador) |
| CDN | Consejo de Defensa Nacional (National Defense Council, Peru) | GAM | Grupo Aéreo Mixto (Mixed Air Group, FAP) |
| CIA | Central Intelligence Agency (USA) | GPS | Global Positioning System |
| COMAC | Comando Aéreo de Combate (Combat Air Command, Ecuador) | HOTAS | Hands on Throttle and Stick |
| CPFG-EM | Capitán de Fragata Estado Mayor (Commander Navy, High Staff) | IAI | Israel Aircraft Industries |
| CTA | Comité Técnico de Adquisiciones (Technical Committee for Acquisitions, FAP) | KIA | Killed in Action |
| DEA | Drug Enforcement Administration (United States) | MA | Ministerio de Aeronáutica (Aeronautics Ministry) |
| DIDOP | Dirección de Operaciones (Operations Direction) | MANPAD | Man-portable air-defence (system) |
| EA | Escuadrón Aéreo (Air Squadron, FAP) | MGP | Marina de Guerra del Perú (Peruvian Navy) |
| EB | Escuadrón de Bombardeo (Bomber Squadron, FAP) | MIA | Missing in Action |
| EC | Escuadrón de Caza (Fighter Squadron, FAP) | MRTA | Movimiento Revolucionario Túpac Amaru |
| EC | Escuadrón de Combate (FAE) | NATO | North Atlantic Treaty Organization |
| EDA | Destacamento de Defensa Aérea (Air Defense Detachment, FAP) | NVG | Night Vision Goggles |
| EE | Ejército Ecuatoriano (Ecuadorian Army) | OEA | Organización de Estados Americanos (Organisation of American States, OAS in English) |
| EHC | Escuadrón de Helicópteros de Combate (Combat Helicopter Squadron, FAP) | PV | Puesto de Vigilancia (Observation Post) |
| EIC | Escuadrón de Instrucción y Combate (Combat Training Squadron, FAP) | RWR | radar warning receiver |
| | | SL | Sendero Luminoso (Shining Path) |
| | | SAM | Surface-to-air missile |
| | | SATCO | Servicio de Transportes Aéreos (Commercial Air Transport Service, Peru) |
| | | SEMAN | Servicio de Mantenimiento de la Fuerza Aérea (Air Force Maintenance Service) |
| | | STOL | Short Take Off and Landing |
| | | UN | United Nations |
| | | USA | United States of America |
| | | USAF | United States Air Force |

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PREFACE

“The peoples who do not know their histories are condemned to repeat it”; so says George Santayana in *La Razón en el Sentido Común*, the first of the five volumes of his work *La Vida de la Razón*. This refers to the fact that one should always review, analyse and write one’s own history, especially in relation to armed conflicts – in this case with Ecuador, our neighbouring country to the north, as there has been scarce literature – even that incipient in nature – regarding the three major conflicts Peru fought with Ecuador. The passage of time, however, opens the possibility for the participants and researchers of these conflicts to both express their experiences and document their actions in books.

In the present book – a magnificent investigation by the author, Amaru Tincopa – a collection of testimonies from the many Ecuadorian and Peruvian men and units that took part in the 1995 events over the Cenepa River valley are presented to the reader. In the first chapter, the author describes the background to the conflict between the neighbouring countries. In the second chapter, he takes us through the situation of the aerial forces of both countries from 1981 right up to the eve of the 1995 conflict in a cold and unbiased analysis, avoiding taking sides.

The heart and soul of the book is in the third chapter, covering air operations between 25 January and 14 February 1995. This section comprises an exhaustive investigation and progressive chronology of

the events carried out during this period, where the experience of the combatants as well as the evolution of the actions undertaken by air wings, groups and squadrons participating is given on a nearly daily basis and in great detail. The pictures, graphics and tables contained in the book permit us to create a mental illustration of the events as well as to clarify the panorama described, which helps ensure a successful book on this important and previously neglected subject.

In terms of the language used, it is simple, clear and precise, quickly and easily understood by both the general reader and aeronautical expert, dazzling like a film of what happened in a war fought in extremely challenging weather.

The remaining two chapters are no less important and are vital to complete the history of the two countries, between which a permanent peace has since been achieved, as should have always been the case between nations which have been ‘sisters’ since before the time of Spanish colonisation.

With the publication of *Air Wars between Ecuador and Peru*, Volume 3, the author has completed a trilogy of books for all audiences, which is recommended reading for those wishing to learn of the events of this conflict.

Lieutenant General (Retired) Carlos Samamé Quiñones
Peruvian Air Force Commander-in-Chief (2009–2011)

1

BACKGROUND

While the end of the January–February 1981 operations over the Condor mountain range brought a tactical victory for Peru, the absence of a peace process meant that the situation on the border shared by the two countries would continue to be tense, leading eventually to a succession of incidents that threatened the fragile peace between the nations.

Gentlemen’s Pact

One such incident took place on 15 January 1984, when elements from the Ejército del Ecuador (Ecuadorian Army, EE) on patrol in the Condor mountain range attacked an advanced Puesto de Vigilancia (Surveillance Post, PV) occupied by the Ejército del Perú (Peruvian Army, EP), located 5km from the border. The attack was fought off by the EP troops, and the Ecuadorians suffered two casualties to fire from the defenders. As a consequence, a meeting was organised between senior military officers of both countries with the aim of avoiding or minimising future incidents. Both parties reached an agreement to develop a dialogue-based procedure to be followed by the troops as they came into contact during their patrols. This procedure was issued among the troops through security cards and its implementation paid off, with it substantially reducing the number of incidents until 1991, when a serious event brought the countries back to the brink of war.

Four years before the events of January–February 1981, EE forces had established a PV in the Cordillera del Cóndor located between *hitos* 50 and 51, around which there was no border demarcation.¹ These were the result of discrepancies that arose in 1948 between the members of the demarcation commission, mainly because the

Peruvians wanted the border to follow the outline of the mountain range buttress, while the Ecuadorians believed it should follow a straight line from one hito to another. This PV bore the name of Teniente Hugo Ortiz Garces, in tribute to an EE officer who fell during the 1941 conflict between the two countries, and was located – according to Peruvian government claims – well inside the sector which was pending delimitation.

However, for several years there was another PV, with the same name, located on the Ecuadorian side of the border along the Santiago River sector. In opposition to this PV, the EP had placed the PV Antiguo Pachacutec (Old, or ‘A’) – which by the mid-80s had been deactivated – and the PV Chiqueiza, located a few kilometres further south, built as its replacement. Meanwhile, in 1986, the Peruvian Army decided to set up yet another PV opposed to the PV Mirador, christened the PV Nuevo Pachacutec (New, or ‘N’).

On 17 July 1991, a platoon of EP soldiers from the PV Pachacutec (N) who were re-entering the vigilance post after having completed a routine patrol on the border encountered a group of Ecuadorian soldiers in the surroundings of Hito 51 and an incident developed. Following the procedures established on the security card, the commanders from each patrol tried to start a dialogue, but this was frustrated due to the insistence of the Ecuadorians who claimed that they were inside their own country. Failing to find a solution, the dialogue escalated, reaching higher command levels, first by involving company commanders and those responsible for the sector, and finally reaching the commanders of the EP’s Quinta División de Infantería de Selva (5th Jungle Infantry Division) and the EE’s 21 Brigada de

Selva (21st Jungle Brigade). Neither side relented in its approach, and the discussion continued to rise in level until reaching both countries' respective chancelleries. On 26 August, during a joint presentation held by the Peruvian chairman of the Council of Ministers and the Chancellor, the Peruvian government announced to the press that – after intense dialogue with their Ecuadorian counterparts – a solution to the border incident had been reached through a bilateral agreement known as the Pacto de Caballeros (Gentlemen's Pact), which contained the following conditions:

- both countries vowed to set up a 'Common Security Zone' of 50 metres to each side of the border along the 20 kilometres separating Hito 50 and 51
- both countries agreed that troops should respect a 2km strip to the north and south of the security zone, which should be ready within 30 days
- Ecuador agreed to restore the Cusamasa-Bumbuiza Hito (located at an altitude of 1,424 metres), which had been previously destroyed by Ecuador.

This pact, however, was doomed from the start. Shortly after its signature, Ecuador refused to continue with its implementation, claiming that the EP had failed to withdraw its forces in accordance with the conditions agreed by Peru. On the other hand, Peru alleged that the agreement was not implemented because of the intransigent attitude of Ecuador, claiming that its belligerent position revealed its intention to prioritise a military solution to the border dispute instead of diplomacy.

Military Option

The Peruvian claims were not far from reality. The Peruvian armed forces had diminished capabilities compared to the previous decade, caused by the country enduring several years of economic mismanagement as well as the almost chaotic situation provoked by the ongoing war against terrorism, facts that were widely known to even the smallest of the Latin American intelligence agencies. Intelligence gathering, however, was not diminished in the Peruvian armed forces, and by early May 1994, Peruvian intelligence services issued reports warning about a new infiltration by Ecuadorian forces, this time in the eastern sector of the Condor mountain range, inside the Cenepa River valley. According to the reports, the Ecuadorian Army had set up a new advanced post named as Cueva de los Tayos, in a revival of its old 'double toponymy' strategy – already used by Ecuador in 1981 – as a location with that name already existed near the Nangaritza River, several kilometres inside the Ecuadorian side of the border. The intelligence reports were later confirmed by the debriefing of members of a patrol from the Batallón de Infantería de Selva No.25 (25th Mountain Infantry Battalion, BIS No.25) after returning from a reconnaissance patrol on the headwaters of the Cenepa River. The men also reported that this position, which was named Falso Cueva de los Tayos (Fake Cueva de los Tayos) by the EP, was defended by approximately 45 EE soldiers.

The Cenepa River valley, located in the Department of Amazonas, is a jungle valley located at 78–79° west and 3–4° south. It is characterised as a rugged area with rainfall over 750 millimetres per year. The area was surrounded to the north by the Ecuadorian Army's PVs known as Banderas and Tiwinza, to the west by PV Cóndor Mirador and to the east by PV Coangos. All these positions were placed on slopes opposite the border with Ecuador and at elevations between 1,600 and 2,400 metres. From these heights, the Ecuadorian positions visually dominated the valley and the opposing Peruvian positions,

the PVs Jiménez Banda and Teniente Pinglo, EP bases both located under 1,200 metres. The valley is crossed by small streams such as the Fajardo, Tiwinza, Fashin, Safra and Arévalo, which joined together to form the Cenepa River.

Meanwhile, in Lima, a military analysis of the new situation led the Peruvian government to the conclusion that its northern neighbour had launched a renewed attempt to reach the Amazon by once again using the double toponymy strategy as its penetration tool, launching a cloned version of the strategy executed nearly 15 years before by building a series of fake surveillance posts inside what Ecuador considered as the disputed area, and assigning them the names of bases, detachments and border populations already existing inside their own territory. Such was the case with Falso Tiwintsa² (3°27'32"S, 78°15'32"W), Falso Base Sur (3°30'53"S, 78°15'32"W), Falso Base Norte (3°26'6"S, 78°16'9"W) and Falso Cueva de los Tayos (3°31'45"S, 78°16'34"W).

The military situation, however, vastly differed from that in 1981 for both sides. Not only was the Ecuadorian Air Force stronger as well as technically advanced, but, more importantly, the Ecuadorian forces on the ground – in a clear response to the lessons learned from the 1981 conflict – had greatly improved their defensive system. In the early 90s, Ecuador – in a surprising shift from their usual Western arms suppliers and taking advantages of the price of such equipment after the fall of the Soviet Union – had acquired 220 9K38 Igla (ASCC/NATO codename 'SA-16 Gimlet') MANPADS. These reinforced the small batch of Shorts Blowpipe missiles purchased in the late 1980s, and were distributed among the various garrisons positioned along the Cenepa valley, both in Ecuadorian and inside Peruvian territory, and, as we will see, would prove their value for the Ecuadorian forces in the following weeks.

The presence of the Ecuadorian troops was only made public in December 1994. The high command of the Peruvian Air Force – aware of the precarious operational situation of its units – tried to persuade the Peruvian president, Alberto Fujimori, to delay action for as long as possible in order to launch an emergency capabilities recovery programme. In contrast, the EP command convinced the president into the erroneous belief that poor weather conditions in the area during January and February would deny any kind of air support to the Ecuadorian forces, and that the EP troops – seasoned after years of counter-subversive operations – would be sufficient to repel the invaders. With presidential elections in April 1995, Fujimori was eager for a quick victory that could secure his re-election and thus approved an immediate plan of action intended to expel the Ecuadorian forces located in the Cenepa River valley.

Hostilities

At 1800 hours on 23 January 1995, elements from the EP's 'Roosevelt' patrol, composed of 30 soldiers from BIS No.25, came under attack by an estimated 50–100 EE troops from a position that from that day would be known as Base Norte (North Base). The attack took place while the patrol was in the process of conditioning a helipad near the Fachín ravine. The attack received aerial support with fire from five helicopters of the Grupo Aéreo del Ejército 44 (Army Air Group 44, GAE.44) of the Aviación del Ejército de Ecuador (Ecuadorian Army Aviation, AEA), a pair of SA-342 Gazelles – equipped with rocket and machine gun pods – and three Super Pumas. The EE troops, supported by the Gazelles, attacked the EP forces with rockets, machine guns and 81mm and 120mm mortar fire for three hours, their fire only ending when the Ecuadorian forces ran out of ammunition. The attack left five EP troops dead – including the patrol leader – as well as two soldiers declared as MIA. Despite being outnumbered and outgunned,

the Peruvian patrol regrouped and was able to repel the Ecuadorian attack, withdrawing to Cota 1400 (a point at an altitude of 1,400 metres). Nevertheless, due to the loss of radio communication with the patrol after the attack, the EP at the time considered all elements from the patrol as MIA.

Hostilities intensified on 25 January, when Ecuadorian forces launched an attack against the 'Tormenta' patrol, which was followed,

at 0530 hours on 26 January, by a Peruvian counterattack – involving the 'Toño', 'Zebra' and 'Spartacus' EP patrols – against Falsa Cueva de los Tayos. Meanwhile, in Lima, events had been followed closely by President Fujimori and the Peruvian Armed Forces Joint Command. After a detailed analysis of the situation, the Peruvian president ordered the activation of the alert status for combat units, aimed at the expulsion of Ecuadorian forces from the disputed territory.

2

OPPOSING FORCES

The FAE 1981–1995

Following the tactical defeat of the Ecuadorian forces in the conflict focused on the Condor mountain range – known as the Falso Paquisha conflict in Peru – in 1981, the FAE undertook a process of re-equipment and modernisation for its elements, with the most important being the purchase of a batch of Israel Aircraft Industries (IAI) Kfir C.2 aircraft, as well as modernisations to the Mirage F.1JA operated by EC.2112, including the installation of a set of radar warning receiver sensors and electronic countermeasures, as well as Israeli chaff and flare dispensers.

Just weeks after the weapons fell silent over the Condor mountain range, the Ecuadorian president, Dr Jaime Roldos Carrera, took the decision – echoing the demands made by the FAE high command – to reinforce the Ecuadorian military aviation with the purchase of 14 fighter aircraft. In order to carry out a selection and evaluation process, the FAE high command appointed a committee led by General Frank Vargas, which travelled to Israel on 17 March 1981 to assess the IAI Kfir C.2 fighter-bomber, issuing its report shortly afterwards. An analysis of the technical and economic details contained in this document, as well as budgetary factors, led to the FAE's decision to finally order only 12 aircraft, and on 21 May that year, only a few months after the official cessation of hostilities in the Condor mountain range, the Ecuadorian government formalised the acquisition of 10 Kfir C.2 fighter-bombers and two Kfir TC.2 training aircraft. The purchase of the Kfir had been long sought by the FAE, which, four years before the conflict in the Condor mountains, had already tried to get their hands on the type.

Shortly after the signature of the purchase agreement, the FAE's Estado Mayor General (High Staff, EMG) sent three officers to Israel in order to receive training in the operation of the Kfir, arriving in Tel Aviv on 16 July. These officers were Major Hernán Quiroz and captains Vicente Apolo and Edmundo Baquero, who began their ground training on 21 July, performing their first flight a few weeks later, on 11 August. This first group of FAE officers was followed, on 31 August,

by another party composed of technical officers, who received instruction on the Kfir's avionics, radar, electronic countermeasures and weapon systems.

On 10 March 1982, the FAE high command authorised the creation of Escuadrón de Combate 2113, and the first flight of a Kfir in Ecuador took place a few days later on the 31st of the month when Kfir C.2 serial FAE905 was test flown by an Israeli pilot. This was followed by the first flight of a Kfir by a FAE pilot, which took place on 19 April in the hands of Major Hernán Quiroz.

In the meantime, the decade proved opprobrious for the FAE's Dassault-Breguet Aviation Mirage F.1JA operations. The Mirages were new in the inventory of EC.2112 when the aircraft serial FAE804 was lost in an accident on 25 June 1980. This incident was followed by the loss of Mirage F.1JA serial FAE810 due to an engine fire on 7 March 1983 (with its pilot, Captain Hernan Ayala, ejecting successfully), then a third Mirage F.1JA serial FAE815, was lost in 1985 and finally, the Mirage F.1JE two-seater serial FAE831 came down near Taura AB on 23 January 1988. Consequently, by 1995, the FAE's F.1JA fleet had been effectively reduced to 13 single-seaters and one two-seater.

Sharks for the FAE

In the mid-1970s, the Lockheed T-33 fleet operated by Ala de Combate No. 21 at Taura AB was in a critical situation due to the termination of



A Jaguar ES two-seater trainer from Escuadrón de Combate 2111 prepares to land at Taura AB, located a few miles south-east of Guayaquil, home of Ala de Combate 21. (BAE via Santiago Rivas)



A SEPECAT Jaguar EB leads an AMD-BA Mirage F.1JA and a IAI Kfir C-2, all three types of which formed the FAE's cutting edge during the 1995 conflict. (Jorge Delgado)

the Mutual Assistance Program (MAP) with the United States of America, which resulted in difficulty obtaining spare parts, seriously disrupting the logistics and maintenance for the type. This situation led to the FAE's decision to end T-33 operations in late 1976, storing the surviving airframes. However, towards the end of the decade, it was clear to the FAE that an advanced jet trainer was required to facilitate the transition of pilots who had been flying the Beech T-34C Mentor on to advanced jets such as the SEPECAT Jaguar and Dassault-Breguet Aviation Mirage F.1JA that were entering FAE service. Thus, after some delays caused by budgetary restrictions, a contract – sponsored by the USAF under the 'Peace Manta' programme – was signed between the FAE and the Sabreliner Aviation Company for the acquisition of 19 T-33 aircraft stored at Davis-Monthan AFB.

The contract included the recovery and modernisation of these airframes, with Sabreliner committing to perform a complete inspection and reinforcement of the aircraft structures, the installation of state of the art avionics – which included a modern gunsight for the pair of .50 calibre machine guns fitted in the nose – as well



A pair of Jaguars from EC 2111 prepare to take off from the runway of Ulpiano Paez AB located in Salinas, Santa Elena peninsula. (BAE via Santiago Rivas)



In the late 1970s, the 'Peace Manta' program was signed between the FAE and the Sabreliner Aviation Company for the acquisition of 19 refurbished T-33 aircraft, taken from storage at Davis-Monthan AFB. (FAE via Santiago Rivas)



The contract included the recovery and modernisation of these airframes by Sabreliner, which committed to perform a complete inspection and reinforcement of the aircraft structures and install state of the art avionics. (FAE via Santiago Rivas)



Upgrades included the provision of a modern sight for the pair of .50 calibre machine guns fitted in the nose of the aircraft. The aircraft wing structure was also reinforced and two hard points for bombs up to 500kg, as well as four additional points to carry two-tube rocket launchers, were fitted. (FAE via Santiago Rivas) as the reinforcement of the wing and the provision of two hardpoints for up to 500kg of bombs and four additional points for two-tube rocket launchers.

On 30 January 1981, the first seven Lockheed AT-33s arrived in Ecuador by air. The airframes were identified with the serial numbers FAE919, FAE502, FAE806, FAE808, FAE810, FAE702 and FAE799 and were assigned to the re-established Escuadrón de Combate No. 2312 stationed at Eloy Alfaro AB in Manta, known as the Tiburones (Sharks). Deliveries of the type continued in the following years, with the last aircraft handed over in 1984. The arrival of the AT-33 not only gave the FAE a renewed advanced trainer but provided a substantial number of close support aircraft.

Transport Aircraft

During the course of the 1980s, the FAE carried out other acquisitions aimed at reinforcing its liaison and transport capabilities, remarkably with the purchase of three Fokker F-28 Fellowships assigned to Transportes Aéreos Militares del Ecuador (Ecuadorian Military Air Transports, TAME), a single Piper PA-34 Seneca (assigned to Escuadrón de Combate 2211), seven Rockwell Sabreliner 40 (three of), 60 (two of) and 75A (two of) (assigned to Escuadrón de Transporte 1114 'Sabreliner') and a dozen Bell TH-57A Sea Ranger helicopters (assigned to Escuadrón de Combate 2212). Ecuador also reinforced its logistic capabilities to the disputed area by building a number of airfields in the surroundings of the Condor mountain range, which included Mariscal La Mar airfield, near Cuenca, Gualaquiza, in the Morona-Santiago province, located about 100km from the region. There were also several auxiliary landing strips in the jungle which allowed the operation of light transports capable of short take off and landing (STOL) operations, such as the DHC-6 Twin Otter 300 flown by the Escuadrón de Transporte 1113 'Twin Otter'.

Support Units

A number of units from both the Ecuadorian Army and Navy also took part in the upcoming operations. The Aviación del Ejército del Ecuador (Ecuadorian Army Aviation, EAE) was present at the border with a pair of Bell 212s (serials E-450 to E-451), a pair of AS-

315 Lama helicopters and a single SA 330 Puma (serial AE 456), operating from Simon Bolivar AB in Guayaquil, ferrying personnel and equipment in and to the Destacamento Mayaicu, as well as other outposts located in the area of the Cordillera del Cóndor. Finally, the Grupo Aéreo No.44 'Pastaza' (No.44 Air Group 'Pastaza') operated five IAI 101 Arava transport aircraft from Shell-Mera Army Aviation base in Tarqui, eastern Ecuador.

Ecuadorian Naval Aviation, led by CPFGE-EM Yesid Jaramillo Santos, deployed SA-316s to Manta AB, from where they flew supply missions on behalf of the coastal detachments. There were also a trio of Beech T-34C Mentors from the Escuadrilla de Entrenamiento



The first three AT-33s seen at the Sabreliner Aviation facilities in Montana shortly before delivery to the FAE. Delivery of the 19 airframes was completed in 1984. (FAE via Santiago Rivas)



These two airframes parked on the dispersal area of Eloy Alfaro AB in Manta show the colourful schemes worn by the AT-33 Lockheed Sabreliners flown by EC.2312. (FAE via Santiago Rivas)



The FAE had been pursuing the purchase of 14 IAI Kfir C-2 aircraft from the late 1970s, but economic as well as political factors had got in the way. On 21 May 1981, the Ecuadorian government formalised the acquisition of 10 Kfir C-2 fighter-bombers and two Kfir TC-2 training aircraft, with deliveries beginning in March 1982. The aircraft were assigned to the newly created Escuadrón de Combate 2113, with its home base at Taura AB. (Jorge Delgado)

(Training Squadron). The aircraft, identified with serials 221, 223 and 225, flew anti-submarine patrol operations from Simon Bolivar AB in Guayaquil in support of the FAE T-34Cs from the Escuela Superior Militar de Aviación (Military Aviation School) which were deployed to Ulpiano Paez AB in Salinas and also assigned to anti-submarine patrols, flying between that location and Manabi. These aircraft had

nose, wing tips and tail sections repainted from red to blue, in order to avoid confusion with those of Peruvian Naval Aviation, which sported similar identification markings.

Air Defence

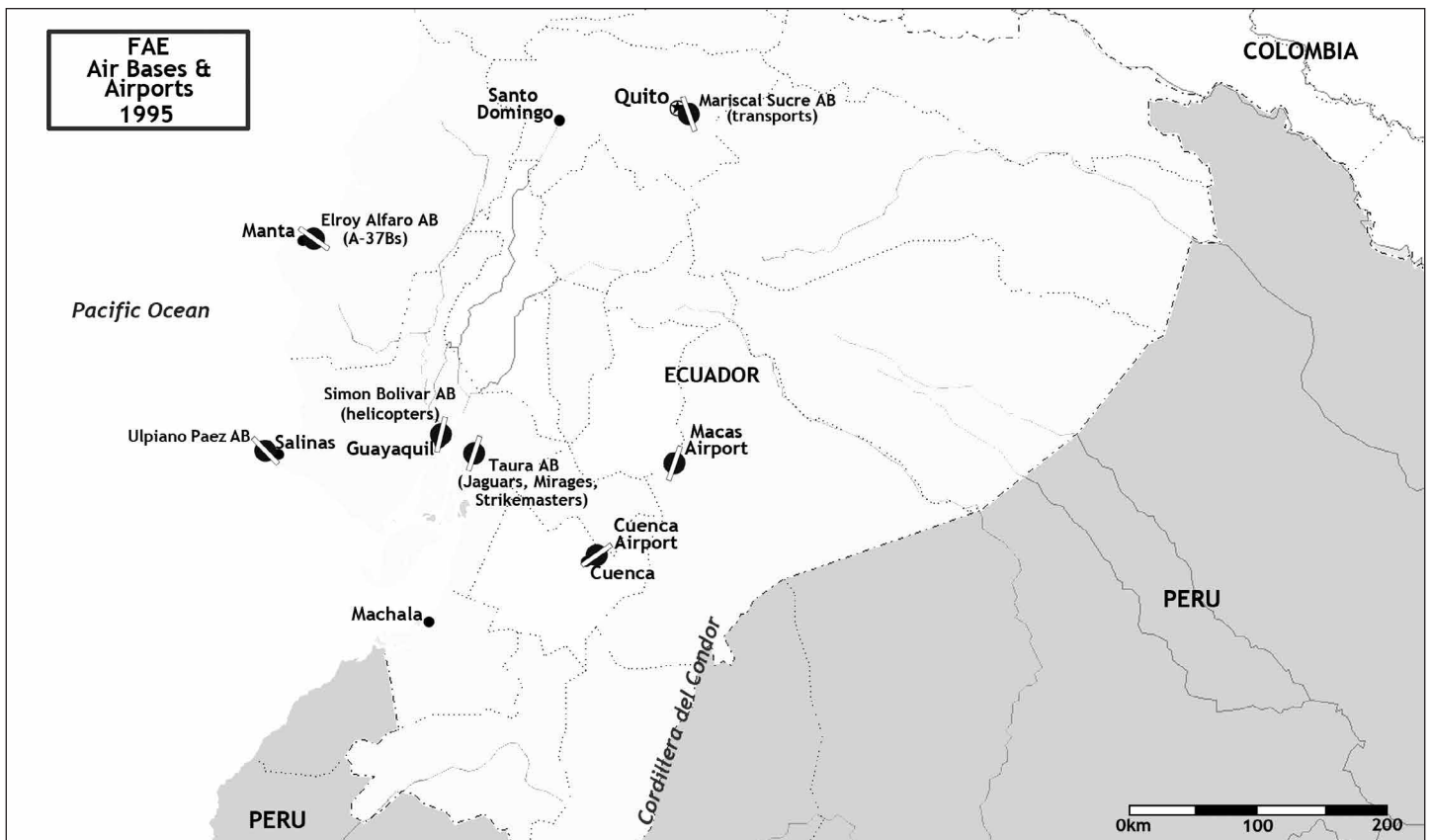
Learning from the lessons of the 1981 conflict, in mid-1982 the FAE high command announced the creation of three so-called Centros de Operaciones Sectoriales (Sector Operations Centres, COS), equipped with Plessey AR-3D radars, with a range of 555.6km.¹ The role of these centres was early warning and direction for fighter aircraft. The acquisition of these radars, along with the Gallipier AR-15 2-dimension radar system in 1985, and the implementation of these detection and control centres allowed the FAE to obtain real-time information on the activities of the FAP south of the border, including in the Condor mountain range – despite the difficult geography of the area – a fact that would play a fundamental role in the success of future air operations. The first COS, denominated COS-1, was based at Taura AB.

THE FAP BETWEEN 1981 AND 1995

Shortly after the Falso Paquisha conflict, the Peruvian Air Force also launched its own modernisation and re-equipment process for its forces, which was designed taking into consideration the experience gained during the operations over the Condor mountain range.

Table 1: FAE ORBAT, January 1995

| Command | Group | Squadron | Aircraft | Base |
|-----------------------------|--------------------------------------|-----------------------------------|--------------------------|-----------------------|
| Primera Zona Aérea | | | | |
| Comando Aéreo de Transporte | Grupo de Transporte 111 | Escuadrón de Transporte 1111 | C-130B/H/L-100-30 | Mariscal Sucre AB |
| | | Escuadrón de Transporte 11112 | HS.748 | Mariscal Sucre AB |
| | | Escuadrón de Transporte 1113 | DHC-6 | Mariscal Sucre AB |
| | | Escuadrón de Transporte 1114 | Sabreliner 60 | Mariscal Sucre AB |
| | | Escuadrón Presidencial | Sabreliner 40, HS.748 | Mariscal Sucre AB |
| | | TAME | A.320, B727, F.28, DHC-6 | Mariscal Sucre AB |
| Segunda Zona Aérea | | | | |
| Commando Aéreo de Combate | Ala de Combate 21 | Escuadrón de Combate 2111 | Jaguar | Taura AB |
| | | Escuadrón de Combate 2112 | Mirage F.1JA/JE | Taura AB |
| | | Escuadrón de Combate 2113 | Kfir C.2 | Taura AB |
| | Ala de Combate 22 | Escuadrón de Combate 2211 | SE.316B, PA.34 | Simon Bolivar AB |
| | | Escuadrón de Combate 2212 | TH-57A | Simon Bolivar AB |
| | | Escuadrón de Combate 2213 | Cessna 150 | Simon Bolivar AB |
| | Ala de Combate 23 | Escuadrón de Combate 2311 | A-37B | Eloy Alfaro AB |
| | | Escuadrón de Combate | Strikemaster | Eloy Alfaro AB |
| | Escuela Superior Militar de Aviación | Escuadrón de Entrenamiento Aéreo | T-34C, T-41° | Ulpiano Paez AB |
| | | Centro de Mantenimiento de la FAE | | Latacunga AB |
| | | Escuela Técnica de la FAE | | Latacunga AB |
| | | Grupo Aéreo 225 | | Baltra AB (Galapagos) |
| | Centro de Operaciones Sectorial 1 | Escuela de Infantería Aérea (EIA) | | Simon Bolivar AB |
| | | Academia de Guerra Aérea (AGA) | | Quito |



A map showing major FAE air bases as of 1995. (Map by Tom Cooper)

This ambitious programme ended with the introduction of combat helicopters and 4th generation fighter aircraft to the region, as well as an upgrade to the capabilities of a large part of the FAP's combat fleet.

The main lesson learned by the FAP command as a consequence of the 1981 actions was that in order to obtain a decisive victory in a future conflict over such an adverse geographic area – as was the Cordillera del Condor – the air force would need fast, heavily armoured and armed assault helicopters capable of operating safely in high-risk environments. Likewise, in order to secure success in carrying out their assigned missions, these combat helicopters should be able to operate freely under an umbrella provided by an all-weather radar-equipped combat aircraft armed with both short-range heat-seeking and medium-range radar-guided Beyond Visual Range (BVR) air-to-air missiles.

Since the mid-1970s, the Peruvian Air Force had been interested in obtaining radar-equipped interceptors, and the purchase, in late 1974, of a batch of 18 Northrop F-5E Tiger II aircraft by Chile presented a new challenge to the FAP strategy and doctrine planners. Later in that decade, attempts to buy Vought F-8 Crusader interceptors proved fruitless, as were Soviet offers to provide MiG-21 and MiG-23 interceptors to Peru. However, the purchase of 18 Dassault Mirage F.1s by the FAE made the strategy planners realise that the FAP was in both technical and numerical inferiority regarding its neighbours, which showed the urgent need to introduce modern air superiority aircraft.

Therefore, in 1981, a requirement was issued by the FAP HQ to the Consejo de Defensa Nacional (National Defense Council, CDN) explaining the urgent necessity to purchase both a new radar-equipped interceptor to replace airframes which had been recently disposed of – as was the case with the 10 Mirage 5s sold to Argentina – and new combat helicopters.² Almost simultaneously, the FAP command ordered the creation of a pair of ad hoc committees to carry out evaluation processes, including the technical characteristics, costs and availability of fighter aircraft as well as combat helicopters available on the market, in accordance with FAP requirements.

Among the types of fighter aircraft being offered to the FAP were the IAI Kfir C-7, Avions Marcel Dassault-Breguet Aviation (AMD) Mirage 2000, General Dynamics F-16C Fighting Falcon and Mikoyan-Gurevich MiG-23 Flogger, while the combat helicopters included

the two most capable aircraft of the time: the Bell AH-1 Cobra and Mi-24D Hind. Trials were carried out, and after careful analysis the respective commissions selected the AMD Mirage 2000 and Mi-24 due to their superior performance and capabilities over competitors.

New Mirages for FAP

On 11 October 1982, the Peruvian government and a consortium formed by the French Snecma, Thomson and Avions Marcel Dassault-Breguet Aviation (AMD-BA) aviation firms signed the Jupiter I contracts for the procurement of 16 Mirage 2000 fighters – 12 single-seat fighters and four two-seat trainers – for a total of 2,296,800 French francs. Then, after the sale of 10 Mirage 5Ps to Argentina that year, the FAP requested the number of Mirage 2000s ordered to be increased. The Jupiter II contract was signed on 14 December of the same year, comprising 10 further airframes for a total of 1,421,000 francs. Due to economic variants, the consortium requested an adjustment to the total amount, which was settled at 4,746,500 francs.

With the first machines under construction, a team of the FAP's most capable pilots composed of Major Felipe Conde Garay and captains Donovan Bartolini, Ricardo Vilchez and Guido Zavalaga arrived at Mont-de-Marsan AB, home of the AdA 118 Experimental



La Joya AB, July 1994. The Mirage 2000P FAP serial 053 prepares for a gunnery mission armed with Mk.82 Snakeye bombs and captive Matra R550 Magic training rounds. (FAP Carlos Chávez Cateriano)



In order to promote the sales of the Mirage 2000 in Latin America, Avions Marcel Dassault-Breguet Aviation negotiated with the Peruvian Air Force in March 1994 for a pair of EA.412 aircraft to be flown from their base at La Joya AB to Los Cerrillos airport in Santiago, Chile, in order to take part in the 1994 International Defense, Air and Space Fair held there. (Herbert Alcorta)



As part of the Peruvian presentation in the show, Commander Mosca takes off for a display flight that became one of the highlights of FIDAE 1994. (Herbert Alcorta)

Centre, in May 1985 to take part in a six-month training programme. In the meantime, the first FAP Mirage 2000s began to roll out of the assembly line and, on 30 May that year, the Mirage 2000DP serial FAP 193 was the first to be handed to Peru during the Le Bourget Air & Space Exhibition.

In the meantime, however, the Peruvian economy had suffered a blow from the constraints of mismanagement by the past decade's military government, as well as from the social convulsion caused by the offensive launched by the Sendero Luminoso (Shining Path, SL) Maoist guerrillas, a terrorist organisation. These factors led the country to enter into default for the committed payments owed to the French, scheduled for 15 May 1983, which led the parties to enter into a renegotiation process.

After a series of negotiations, an additional contract, known as Jupiter III, was signed on 7 June 1985, this time covering only 12 airframes (10 single-seat fighters and a pair of twin-seat trainers, as well as a Dassault Falcon 20F) while raising the original amount payable from 4,564,000 to 4,960,000 francs – roughly \$650 million. A further contract, Jupiter IV – for weapons and a flight simulator – was to be signed at a later stage once the payments for Jupiter III were honoured. The details of this new arrangement were made known to the public and – surprisingly – to the FAP only on 28 July, when Alan Garcia Perez, recently elected as Peruvian president, announced the reduction of the Mirage order from the original 26 airframes to just



A Mirage 2000DP flies over the French countryside during a test flight in 1985. The aircraft bears the registration FAP 195, although the Peruvian liveries have not yet been applied. (FAP via Carlos Chávez Cateriano)

12, as well as the cancellation of the option for the 10 additional aircraft. It was a decision that shocked even the FAP high command officers, who, allegedly, were not even consulted about this. According to authorised sources, President Garcia took this decision a month earlier after a series of travels to France, Italy and the Middle East, again without knowledge of the FAP command.³ This controversial decision was the starting point for a scandal – still unresolved at the time of writing – involving shady businessmen, corrupt politicians, low-profile diplomacy and Middle East

arms dealers, that pursued Alan Garcia for the rest of his life.

While politicians continued with renegotiations, in France on 8 October 1985 Major Felipe Conde and Captain Ricardo Vilchez became the first qualified FAP Mirage 2000 pilots. Unfortunately, shortly after their first flights, they were ordered to return to Peru because AMD refused to ship the airframes until the negotiations were concluded. The FAP eventually took delivery of 10 Mirage 2000Ps and two 2000DP fighters, as well as a single Falcon 20F corporate jet, while the much-needed flight simulator, support equipment and – more importantly – weapons were left out of the deal.

On 20 November 1986, the first four airframes arrived at Pisco harbour, 250km south of Lima, aboard the freighter *François Billon*, and were taken to the nearby Capitán FAP Renán Elías Olivera AB. Shortly after delivery, the Escuadrón Aéreo (Air Squadron, EA) EA.412 Halcones – the unit assigned to operate the aircraft – was activated. This unit was declared fully operational by mid-1988, when the first 18 pilots completed their first Programa de Entrenamiento (training programme, PDE) and the last two Mirages were delivered. It is important to note that the aircraft remained devoid of any air-to-air armament (bar their internally installed DEFA 30mm guns) until 1994, when a shipment of MATRA R.550 Magic 2 missiles was finally delivered.

EA.412 felt the burden of political decisions and economic mismanagement of the country. Being a combat unit, its funding was considered superfluous by the government and its budget severely reduced, as most of the little money available for the FAP was assigned to Grupo Aéreo No.3, which was very active at the time providing assistance to the other arms in the ongoing war against the Sendero Luminoso terrorist organisation. Fighter aircraft were considered surplus to requirements – given the country's situation at the time – and while most flyable aircraft had communications and radar system problems,



A nice view of Avions Marcel Dassault-Breguet Aviation Mirage 2000DP on display at the Le Bourget International Air and Space Fair on 30 May 1985. Note the aircraft, carrying a MATRA R-550 Magic 2 and Beluga munitions dispenser, sports the FAP serial 193 but is still devoid of Peruvian national markings. (Dre Peijmen)



Mirage 2000DP serial FAP 193 is lowered into the cargo bay of the French freighter *François Billon*, which would carry it, along with three other Mirages, to Peru in late October 1986, arriving at Pisco harbour on 20 November. (Carlos Chávez Cateriano)

had allowed the Peruvian Air Force to create its first rotary wing unit, the 71 Escuadrón de Rescate (71st Rescue Squadron, 71.ER) as part of Grupo Aéreo No.51 (Air Group No.51), based at Las Palmas air base. These aircraft were reinforced, two years later with the arrival of a Sud Aviation SA-318 Alouette II acquired for the National Aero Photographic Service and, a year later, assigned to the 71.ER.

A few months later, and with the intention of agglomerating in a single unit all fixed and rotary wing aircraft assigned to rescue missions, the Ministerio de Aeronáutica (Ministry of Aeronautics) ordered the creation of Grupo Aéreo No.31 and, within its organisation, the

airframes requiring major maintenance or repairs were kept in storage until funds became available.

New Helicopters

The other important FAP acquisition from the period after the 1981 conflict was the result of an evaluation process launched in 1982, during which several models of assault helicopters were evaluated, including the Bell AH-1G Cobra. This process ended with the selection of the Soviet-built Mi-25 Hind D helicopter, with the FAP issuing an order for 16 such units in 1983. These assault helicopters, the first of their kind to enter service with a Latin American air force, were operated by the Escuadrón Aéreo 211 (211th Air Squadron, EA.211) based at Mayor Guillermo Protzel del Castillo AB in Vitor, Arequipa.

The assignment to the FAP in 1957 of a pair of Hiller H-23C rescue helicopters – originally acquired for use by the Ministry of Health –

Escuadrón de Rescate No.332.

In the early 1960s, and given the growing need for rotary wing aircraft to carry out transport and rescue duties in Peruvian territory, the government of Peru ordered six SA.318 Alouette II helicopters, which arrived along with a French military mission responsible for providing instruction to FAP crews in the use of turbine helicopters. It was during this period that GA No.31 merged with Transportes Aéreos Militares (TAM), thus creating a new unit called Comando de Transportes (Transport Command, or COTRA). However, COTRA was short-lived, being disbanded in 1961 and replaced the following year by Grupo Aéreo Mixto No.8 (Mixed Air Group, or GAM No.8) and the Servicio de Transportes Aéreos Comerciales (Commercial Transport Air Service, or SATCO), both based at Teniente FAP Humberto Torres Matos AB, located at Limatambo international airport in Lima. As a result of these changes, ER.332 became part of

the structure of GAM No.8 under the designation ER.832, moving to Callao.

At the beginning of 1962, in order to reinforce its rotary wing aviation, the FAP acquired a dozen Sud SE.3160 Alouette IIIs capable of flying at high altitude. With the arrival of these aircraft, the crews acquired more flying experience and participated in support of counterinsurgency (COIN) operations launched by the Peruvian Army against the MIR guerrillas during September and October 1965 in the sectors of Mesa Pelada, Huancamayo, Chilifruta, Andamarca, Satipo and Huancabamba. It was during these first actions that the need for combat helicopters became evident to the FAP high command.

In a first attempt to provide combat capability to rotary wing aircraft, in the early 1970s ER.832 carried out the modification of a handful of Alouette III helicopters, providing them with supports for the launch of up to four Matra T.10 105mm rockets. The limited payload, however, meant this project was considered unfeasible and the plan to acquire more helicopters and convert them to this configuration was discarded.

Escuadrón de Rescate No.832 had its fleet reinforced with the arrival of three Mil Mi-8Ts (the Mils being known as 'Hips' in the West) donated by the Soviet Union as part of a humanitarian aid package sent after a massive earthquake struck the Peruvian Central Andes in the mid-1970s. During this same period, the oil-extraction 'boom' in the Peruvian eastern Amazon forest, and the need for companies experienced in the use of helicopters for such work, presented an ideal opportunity for the FAP, which signed a contract with Occidental Petroleum (OXI) and Petroperú in 1971 to provide support operations for seismic surveys in the Amazon, near the border with Ecuador.

A consequence of this contract was a sudden need to acquire a large number of helicopters in order to supply the demand for operations. Taking into account that, at the time, the Peruvian government did not have the resources to finance such large acquisitions, a proposal was made to purchase the aircraft employing resources from the funds generated by the unit's operations. However, given that the capacity and level of command of ER.832

did not match the multiple negotiations that had to be carried out with representatives of transnational companies and the carrying out of multi-institutional coordination – such as the Rescue Squadron Command, GA No.8 commander, commander of the SATCO Company, the Chief of Economy and Finance of the Ministry of Aeronautics, Director of Operations of the Ministry of Aeronautics and officials of the General Directorate of Air Transport in addition to the executives of Petroperú – the decision was taken to centralise in a single command the use of rotary wing aircraft, thus constituting Grupo Aéreo No.3 on the basis of ER.832, on 6 June 1972.

Combat Helicopters for the FAP

With the activation of GA No.3, the Peruvian Air Force started to receive substantial revenues for the provision of the rental services of aircraft and crews to the oil companies. GA No.3 crews also accumulated huge amounts of flight hours carrying out transport work, obtaining valuable flight experience aboard the Bell 47Gs, Bell 206s, Bell 212s, Mil Mi-8s and Mi-6s of the group. The experience gained in the course of these operations would later be very useful, both in supply and combat missions.

During the second half of the 1970s, and following the incipient experience gained by the FAP during operations against the guerrillas, there was a need for aircraft capable of providing timely air support to ground forces, a mission for which the helicopter was presented as an ideal tool. The Mi-8T, which began arriving in significant quantities from the second half of the 1970s, could carry a respectable load of armament on external supports, although at the cost of restricting



The experience gained by the FAP during operations over the Condor mountain range in 1981 reinforced the FAP's conviction to obtain heavily armed combat helicopters to provide close air support to ground forces, leading to the eventual acquisition of 14 Mi-25 Hind D assault helicopters. (IEHAP)



A trio of Mi-6A Hooks from Escuadrón de Helicópteros 341 on the ramp of Grupo Aéreo No.3 in Callao in the mid-1980s. Despite their undeniable usefulness to the FAP, these huge aircraft were expensive to maintain and the economic crisis of the second half of the decade ended its operations in Peruvian skies. By the early 1990s, no such aircraft were in service. (IEHAP)



The ramp of Air Group No.3 in Callao in 1985. Transport aircraft from different squadrons assigned to this air group – including a de Havilland Canada DHC-5 Buffalo and a Douglas DC-8 from 842nd Transport Squadron, an L-100 Hercules from 841st Transport Squadron, an Antonov An-26 from 843rd Transport Squadron, as well as a Fairchild Hiller FH-227E and a Fokker F-28 Fellowship assigned to the Presidential Squadron – can be seen in this picture. (Rolando Cárdenas Brou)

its manoeuvrability – especially at high altitude – which made it vulnerable to enemy fire. Despite these limitations, both the FAP and the recently created Aviación del Ejército (Army Aviation, AdE) showed their interest in this helicopter and eventually issued large purchase orders to Aviaexport.

The Vietnam War demonstrated the viability of the use of combat helicopters to carry out umbrella and close support missions for ground forces, with the Bell UH-1 and AH-1 Cobra being especially successful in these functions. During the second half of the 1970s, the FAP displayed an interest in acquiring a batch of AH-1 Cobra combat helicopters and made repeated – albeit unsuccessful – enquiry efforts to the US government.

Enter the Hind

The EP was the first branch interested in acquiring the Mil Mi-24. It was said that an AdE officer learned about the existence of this helicopter thanks to a brochure provided by an officer from the German Democratic Republic's air force, and, during a visit by a group of EP generals to the Mil helicopter factory in Moscow during the summer of 1976, one of these officers began to inquire about it. Lieutenant General Mario Muñoz Ortega, at the time with the rank of commander and acting as GA No.3 Chief of Staff, was serving as a liaison officer for this visit, and recalled that at the end of the visit the Soviet marshal in charge of the tour put an end to the repetitive enquiries by EP officials with a brief but cutting: "Mi-24 we have, we don't sell!"

Shortly after the Falso Paquisha conflict, the FAP high command finally came to the realisation of the urgent need to acquire combat helicopters. The opportunity was presented at the end of 1981 during a visit of the FAP General Staff to Moscow, in which Commander Muñoz – a veteran from the campaign – took part. Although the acquisition of combat helicopters was not part of the FAP agenda at the time, General Hernán Boluarte, the FAP's Chief of Staff, became extremely interested in the Mi-24 after reviewing the information provided by Commander Muñoz. With the frustrated acquisition of the Bell AH-1 Cobra still fresh, Muñoz asked the reception commission to inform the Soviet authorities about the FAP's interest in taking a closer look at the Mi-24. On this occasion, however, the Soviets – probably aware of the FAP interest in the Bell Cobra – placed no objections to the delegation's requests while visiting the Moskovskiy Vertoletnyy Zavod Mil, the Mil helicopter plant, in Moscow and put a Hind D variant on display, even allowing Commander Muñoz to fly aboard during a demonstration flight at the end of the visit.

Impressed with the characteristics of the Mi-24, the members of the commission quickly persuaded the FAP's high command to prepare an acquisition programme to purchase a batch of these helicopters, and negotiations between governments started shortly thereafter. With the required paperwork issued and approved, the Peruvian president, Fernando Belaunde Terry, signed an order in early 1982 for the purchase of 24 Mi-25 helicopters (22 Mi-25 Hind-Ds and two Mi-25U trainers), spare parts, armament and a flight simulator. Budget restrictions, however, forced the FAP to reduce its order shortly after from 24 to 14 airframes.

The purchase agreement included training for pilots and ground personnel to be carried out in the USSR, with the process beginning with the arrival, in March 1982, of a delegation of GA No.3 officers to the city of Frunze (currently Bishkek in the Republic of the Kyrgyzstan), home of the Soviet Helicopter Training Regiment No.714. At this location, the Peruvians received theoretical and practical instruction in the use of the Mi-25, as the Mi-24's export variant was known, with training lasting until February 1983. In the meantime, aircraft deliveries began, with the first four airframes and the flight simulator arriving at Mayor FAP Guillermo Protzel del Castillo AB, in Vitor, Arequipa, in May 1983. The simulator, however, could not be assembled due to the absence of an appropriate building and source of power for its operation, and was kept stored for several months until construction of a building – located within GA No.3 in Callao – began.

With the arrival of the aircraft, an intensive training process began for the rest of the crews assigned to the new weapon system, which was completed in mid-1984 with the graduation of the first Mi-25 pilot and weapons officer class. Shortly after the reception of the first machines, by Supreme Decree No.0027-79/AE of 31 July 1984, the Grupo Aéreo No.2 (GA No.2) was created at Mayor FAP Guillermo Protzel del Castillo AB in Vitor, Arequipa, a date which also saw the activation of Escuadrón de Helicópteros de Combate 211 (211th Combat Helicopter Squadron, EHC-211) as the unit assigned to operate the new combat helicopters.

The Peruvian Army Aviation had also shown interest in the Hind, considering the acquisition of 12 airframes. However, despite having issued its request to the government, the acquisition plan did not materialise due to the complicated situation of the Peruvian economy during this period.

Mi-25DU

The Mi-24 dedicated trainer version first flew in 1980 as the Mi-24DU or izdeliye 249. Besides featuring a set of redundant flight commands in the armament operator's cabin, the Mi-24DU also differed externally from its combat counterpart by lacking the USPU-24 turret on the chin, which gave it a more stylised nose section. The export model was called the Mi-25DU.

On 19 July 1989, the FAP suffered its first Mi-25 loss when a Mi-25, serial FAP 655, crashed in the town of Porculla, in the department of Piura, due to a mechanical failure, causing the death of all its crew, which comprised Captain Juan Rivas Oviedo, 2nd Lieutenant Luis Rengifo Flores and Sub-Officer Ernesto Gutiérrez Chumacero.

The 'Dragons' against the Sendero Luminoso and the MRTA

After having successfully completed its training programme (PDE) during the second half of the 1980s, the EHC.211 developed tactics for the use of the Mi-25D against the Maoist guerrillas of Sendero Luminoso as well as the Movimiento Revolucionario Túpac Amaru (Tupac Amaru Revolutionary Movement, MRTA) – whose columns operated in various sectors of the Central Andes and the mountain forest area – and the unit was in a position to launch combat operations by late 1986. Thus, at the beginning of 1987 the unit was ordered to deploy its aircraft in combat missions to support the COIN ground forces.

By the end of the 1980s, both the Peruvian Army and the Peruvian Navy had deployed troops in the upper Ucayali River area as well as in the Huallaga River valley in order to counter the presence of subversive columns that sought to control the production and distribution of the coca leaf and its derivative products, pasta base and cocaine hydrochloride, and thereby charge 'quotas' to drug traffickers, thus obtaining funds for financing their operations. This provided a substantial source of income for these terrorist forces and, while in retreat in other sectors of the country, they became stronger, better armed and better organised thanks to the illegal money available to them. It was at that juncture that the Peruvian Joint Command of the Armed Forces requested the FAP intervention in order to provide the ground forces assigned to fight the seditious groups with immediate air support. Consequently, EHC.211 received the mission to provide umbrella and close air support to the EP counter-subversive

battalions and the MGP (Peruvian Navy) infantry elements operating in the region. With that objective, the unit placed two detachments under the command of GA No.4. These detachments were:

- Detachment Ucayali: deployed at the Pucallpa Air Base (BAPUC) and Yarinacocha Airport. This detachment was ordered to provide umbrella and close support to the Marine Corps forces operating in the Ucayali region.
- Detachment Tarapoto: deployed at the Cadete FAP Guillermo del Castillo Paredes Airport located in the city of Tarapoto. This detachment was assigned with the mission to provide umbrella and close support for ground forces engaging the terrorist elements in the Huallaga River basin. Depending on the operational requirements, this detachment could deploy a helicopter to the airfield at Tingo Maria.

Among the numerous COIN operations carried out by EHC.211 between 1988 and 1994 was the support provided to an MGP Marine Corps patrol from the Aguaytía Counter-Terrorist base. Ambushed near the bridge of Hidayacu located at the exit of the Boquerón de



Captain Rengifo in front of one of the Mi-8Ts from EA.341. The aircraft sports the typical camouflage scheme applied to FAP aircraft during the 1970s and 1980s, when the main threat was centred in the south of the country. (Gonzalo Rengifo)



A Mi-25 Hind D, serial FAP 659, takes off from the runway of Mayor Guillermo Protzel del Castillon AB located in Vitor, Arequipa, in early 1995. (FAP)

Padre Abad, Ucayali, while returning to base after completing a patrol on 13 August 1991, the opening attack had claimed the lives of more than a dozen Marines and the survivors of the patrol were pinned down by terrorist forces. Air support was requested and a Mi-25 that was deployed to Aguaytía airfield soon reached the area, opening fire on positions in the jungle following indications provided by the patrol commanding officer using only a primitive Motorola hand-held radio that the pilot placed inside his helmet in order to communicate with the ground. After a 45-minute attack – and after completely depleting his C5K rocket supply, 23mm shells and 12.7mm ammunition from the bow machine gun – the Hind pilot continued to fly over the area at low altitude, ordering his mechanic to open fire with his sidearm through the rear windows in an attempt to maintain pressure on the terrorists. Eventually, and after sustaining numerous casualties, the terrorist column withdrew from the area and the patrol was saved from complete annihilation.

Despite the small number of aircraft deployed to the so-called 'emergency zone', the superior firepower of the 'Dragons' – as the aircraft began to be called – gradually overcome Sendero Luminoso fighting capacity in the region, and the mere presence of the helicopters prevented actions by subversive columns against populated centres and army barracks.

Enter the 'Nicaraguans'

In the early 1980s, Nicaragua was undergoing a bloody civil war between the Sandinista government forces – supported by the USSR and its operator in Latin America, Cuba – and the 'Contras' guerrillas, backed by the CIA. It was in that context that the Sandinista Army began receiving huge amounts of military materiel from the USSR, taking delivery of 15 Mi-25 helicopters (numbered 336–349) in 1983, followed by 16 second-hand Mi-24Ds (numbered 350–365) from VVS stocks in 1984. These aircraft were operated by the Escuadrón de Ala Rotativa (Rotary Wing Squadron) of the Fuerza Aérea Sandinista (Sandinista Air Force). The signing of peace agreements in 1990 and the reduction of the military budget, however, made the use of the Hind D by the renamed Nicaraguan Army Air Force redundant, so the surviving units were put on sale, along with an appreciable cache of weapons and equipment of Soviet origin.

The Peruvian government, through its diplomatic and intelligence channels, took notice of this situation and soon launched negotiations aimed at the acquisition of an arms package that included seven Mi-24D/Mi-25 Hind-Ds, 15 Mi-171 V Hip-H transport/assault helicopters,



In 1993, the Peruvian government negotiated with Nicaragua for the purchase of seven Mi-24D/Mi-25 Hind-Ds, 15 Mi-171 V Hip-H transport/assault helicopters, nearly 200 9K313 Igla-1E MANPADS, 24 ZU-23 anti-aircraft guns, two P-19/37 radars and a large stock of spare parts for these aircraft, for a total of \$25 million. (Gonzalo Rengifo via José Barrera)



FAP 646 was a Mi-25 operated by the Nicaraguan Army Aviation and sold to the FAP in 1993. The aircraft was shown at Las Palmas AB during a ceremony marking the anniversary of military aviation on 23 July 1993. Note the impressive 'shark mouth' design applied to aircraft in the late 1980s. (Herbert Alcorta)

nearly 200 9K313 Igla-1E MANPADS (ASCC/NATO codename 'SA-16 Gimlet'), 24 ZU-23 anti-aircraft guns and two P-19/37 radars, as well as a large stock of spare parts for the helicopters, for a total cost of \$25 million. The original contract included only a dozen Mi-17s but, given the impossibility of the Nicaraguan government to supply enough spare parts to comply with the terms of the contract, it was arranged to deliver two additional airframes to serve as a source of spares. These 'Nicaraguan' Hinds were assigned with serials FAP 645 to FAP 648, FAP 650, FAP 652 and FAP 654. A few days after the

delivery of these aircraft, however, and once the Servicio de Material de Guerra (War Material Service, SEMAG) completed the evaluation on the condition of the airframes, a decision was taken to use two Mi-24Ds – serials FAP 652 and FAP 654 – as a source of spare parts, on account of these having less useful life remaining. The FAP did this as a last resort in order to maintain other units in operational condition, given the impossibility of sourcing spare parts and technical support from Russia, which requested the cancellation – or refinancing – of the outstanding debt from the previous decade, debt that could not be paid by Peru at the time due to the acute economic crisis the country was facing.

It was during this difficult period that EA.211 suffered the loss of a second Hind during operations. While returning from a training sortie at Talara on 3 September 1993, the Mi-25 serial FAP 696 suffered an engine failure, forcing its pilot, Captain Juan Velásquez Soto, to make an emergency landing which ended with the helicopter on its side. Fortunately, there were no injuries to its crew.

Embraer EMB.312

In 1986, the Peruvian government issued the Empresa Brasileira de Aeronáutica S.A. (Brazilian Aeronautics Company, Embraer) with an order for a total of 20 EMB.312 Tucano (Toucan) trainers to replace its fleet of obsolescent Cessna T-37 Tweets acquired in the early



Only a dozen of the Peruvian Mi-17s (ASCC/NATO codename 'Hip') were airworthy as of 1995, and three additional airframes ended up being used as a source of urgently needed spare parts to keep the other 'Hips' flying. (Gonzalo Rengifo)

1960s. Deliveries of these units began in April 1987 at the rate of two per month, with all aircraft being delivered by November 1987. The aircraft, fully weapon-capable, were assigned to the Escuadrón de Instrucción Primaria 512 (Primary Training Squadron) under the command of Grupo Aéreo 51, the FAP's training wing. An unfortunate incident involving the Tucanos took place on 24 May 1988, when a trio of aircraft – serials FAP 426, FAP 428 and FAP 430 – collided mid-air while performing aerobatics, killing four FAP airmen.

In 1991, the FAP issued a new order to Embraer for 10 additional units, which were placed under the command of Escuadrón de Instrucción y Combate 514 (EIC-514), a dual-role unit performing advanced training as well as COIN/anti-narcotics operations in cooperation with the CIA and the DEA (the US Drug Enforcement Administration). From that year, the EIC.514 began participating in operations against the drug trafficking air bridge launched by the organised drug cartels during the late 1980s, with their crews claiming numerous aircraft used by the traffickers were shot down.

The Mirage 5 Dardos for Argentina

On 2 April 1982, military forces from Argentina invaded the Falkland Islands (Islas Malvinas to the Argentinians) in a 'reoccupation of its former territory' from the United Kingdom, as announced by the military Junta ruling the country. The illegal move was widely



The FAP took delivery of 20 Embraer EMB-312 Tucano (Toucan) advanced trainers to replace its fleet of obsolescent Cessna T-37 Tweets, with deliveries commencing in April 1987. The aircraft, fully weapons capable, were assigned to the Escuadrón de Instrucción Primaria 512 under the command of Grupo Aéreo 51, the Peruvian Air Force's training wing. (IEHAP)

condemned by the international community, and as a consequence, an arms embargo was imposed on Argentina by the United Nations Security Council. To make matters worse for the Argentinians, the British reaction was swift and determined, and a Royal Navy Task Force was sent immediately with orders to retake the islands and return them to the Commonwealth. Shortly afterwards, the skies over the Falklands became the combat stage for Royal Navy and Fuerza Aérea Argentina (Argentine Air Force, FAA) aircraft. The latter's Mirage IIIs, IAI Daggers and Douglas Skyhawks, although flown valiantly, proved no match for the 'all-Aspect' AIM-9L Sidewinder air-to-air missile of the RN Sea Harriers, which resulted in the loss of 19 Argentinian aircraft during the conflict.

To replenish its ranks after the losses sustained during the short but violent campaign, the FAA opted to exercise the rights contained in a previously signed contract with the Peruvian government for the transfer of 10 Mirage 5P3 fighters for a total of \$50 million. Even to this day, it is maintained in some circles that Peru 'helped' Argentina by selling these aircraft amidst difficult times, when all the Peruvian government actually did was just honour a previous arrangement, dated 14 December 1981. Negotiations for the purchase of these airframes went back to 1978, when a memorandum of understanding was signed between the parties, with the Argentinians committing to purchase the aircraft and the Peruvians agreeing to keep them in full operational condition until the delivery date (which was to be set by the FAA). It should also be noted that the aircraft belonged to the earliest batch of delta-wings received by the FAP, and consequently had the highest number of flight hours. Despite this, the aircraft were in overall acceptable condition and had plenty of flight hours left, and indeed had a long service life with the FAA, with the last Maras being withdrawn from service only in 2016.⁴

In the early hours of 4 June 1982, 10 Mirage 5P aircraft took off from Mariano Melgar/La Joya AB in Arequipa and headed south-east, bound for Tandil in Argentina.⁵ Under complete radio silence, Peruvian Air Force pilots climbed to an altitude of 33,000ft and crossed Bolivian airspace – whose air force was powerless to intervene anyway – in order to avoid Chilean territory. After a short refuelling stop at Jujuy, the formation landed in Tandil without incident. Their arrival took place just a few days before the end of operations in the Falklands, and therefore none of the Mirages took part in operations there. Prior to the actual delivery of these airframes, a series of additional supply flights were undertaken by a FAP Lockheed C-130, during the course of which a small number of 9K32M Strela-2M (ASCC/NATO codename 'SA-7b Grail Mod.1') MANPADs along with the remaining FAP stocks of Nord AS.20 and AS.30 missiles, as well as torpedoes, was delivered. More importantly, during these supply runs, a sizeable number of RP30 auxiliary fuel tanks – dozens of which had been expended by the FAA Mirages during operations over the South Atlantic – were also delivered, and these items alone, due to their importance for Mirage and Dagger operations, were probably more valuable to the Argentinians than all the equipment listed above.

It is worth mentioning that the Peruvian government

did become involved in a triangular trade operation – which could be considered as the real helping gesture from Peruvian President Fernando Belaunde Terry and his First Minister, Manuel Ulloa, towards Argentina – aimed at the delivery to the FAA of Mirage IIICJ fighters, Shafrir Mk.II missiles and 1,500-litre drop tanks purchased from a third country, Israel. As the story goes, President Belaunde and Ulloa authorised the Peruvian Ministerio de Aeronáutica to issue blank purchase orders as well as destination certificates, which were later filled in by Israeli companies. Thanks to help from the Peruvian government, the Argentinians were thus able to elude the arms embargo and lay their hands on military equipment worth millions of dollars that would otherwise have been impossible to procure. The deception was so elaborate that some of the Mirage IIICJs even received FAP camouflage paint schemes and were assigned with fake serial numbers, and although British Intelligence eventually discovered the gambit, by that time most of the equipment was already on Argentinean soil.

Dardos of Project Phoenix: The Mirage 5P4 upgrade

On 8 June 1981, the Peruvian Air Force and AMD-BA representatives signed the Martillo X contract, which would be the last of a long series of Mirage 5 orders. The contract covered the purchase of three Mirage 5 airframes of a new, upgraded variant with improved navigation and attack capabilities which turned the Mirage 5 into a precision strike aircraft. The airframes – two single-seaters and a two-seat conversion trainer – wore the factory denominations M5P4 and M5DP4, respectively, and featured the following equipment:

- Fully integrated NATO-Warsaw Pact weapon systems, enabling the aircraft to employ both French and Soviet weaponry such as the Soviet-built Vympel R-13M (ASCC/NATO codename 'AA-2D') and the MATRA R550 Magic II air-to-air missile
- Litton LN-33 inertial navigation system platform
- TRT AHV6 radio altimeter
- Thomson-CSF VE 110 CME Heads-Up Display replacing the CSF 97
- Hands On Throttle And Stick (HOTAS)
- Thomson-CFM TMV 630 laser rangefinder/CSR laser air-to-ground telemeter fitted in a fairing located under the nose
- EAS RNA 720 VOR-ILS
- TVT TA340 IFF-TH
- 2 EAF UHF and VHF radios
- Removable In-Flight Refuelling Probe (IFRP).



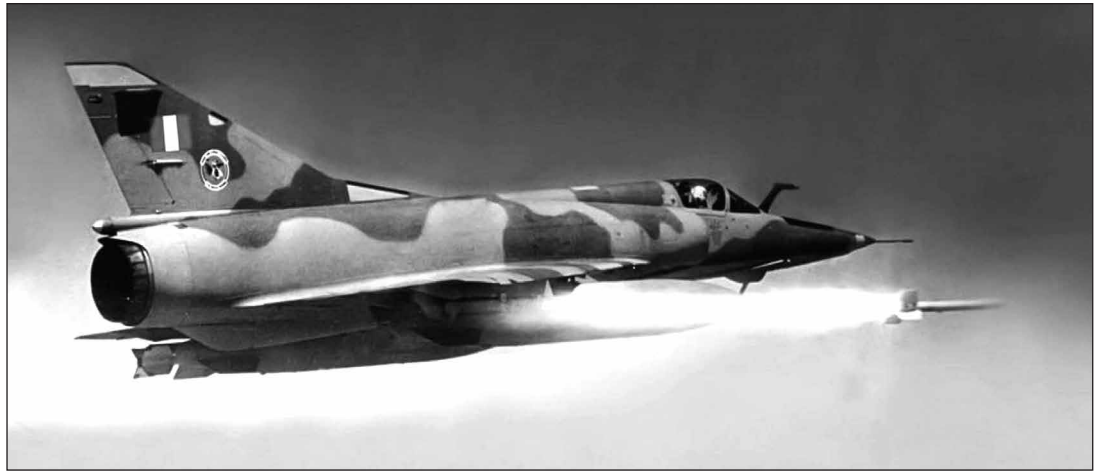
Mirage 2000P serial FAP 064 flying over the majestic Misti volcano in Arequipa during a training sortie in 1988. (FAP)

The contract also contained an addendum for the upgrade of the remaining FAP Mirage 5P3 fleet to the P4/DP4 standard, including the purchase of 15 upgrade packages. Back in France, Mirage 5P3 serial FAP 110 – which at the time was undergoing repairs at the AMD-BA Mérignac facility after damage sustained during an incident back in 1978 – would serve as prototype aircraft for the upgrade, while conversion of the remaining 15 aircraft in FAP service was to be carried out locally by SEMAN (Servicio de Mantenimiento de la Fuerza Aérea) in Lima. Once repairs on its structure were completed, FAP 110 was fitted with the new equipment and flown to Istres, where a series of navigation, attack and refuelling system trials were held between September 1985 and March 1986.

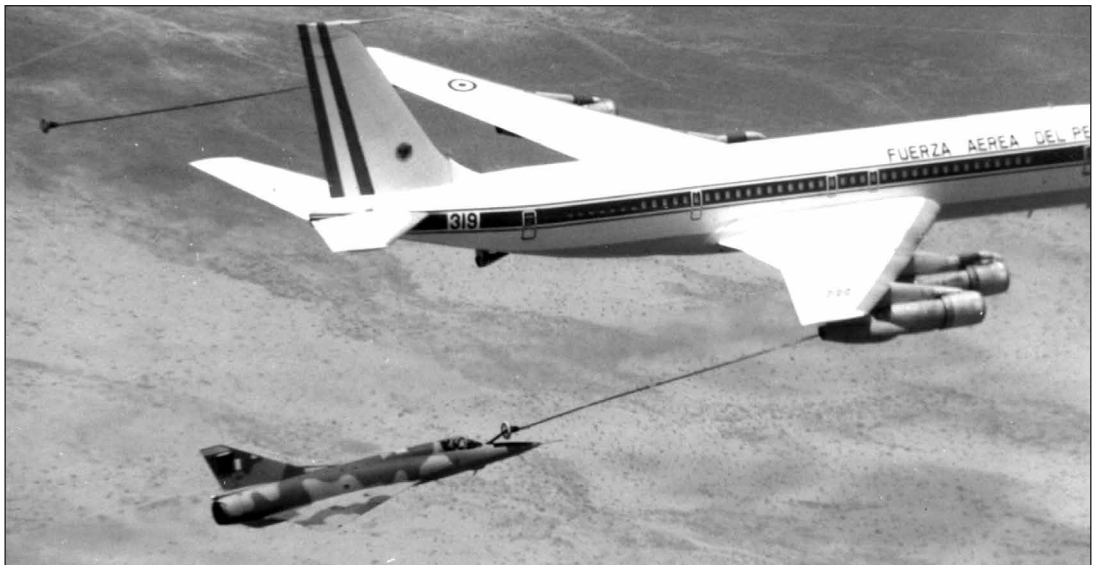
The M5P4 was the first Mirage series ever to be fitted with an IFRP, and tests showed that the aircraft's general performance was not affected by this modification, while the fuel transfer ratio allowed by the probe reached 500 litres per minute. After the system validation phase was complete, the airframe was cleared for delivery and shipped to Peru along with a team of Dassault technical supervisors and the 15 specially provided upgrade packages. Around this time, and in order to provide aerial refuelling to the Mirage 2000P, the Cessna A-37Bs and the newly modified Mirage 5s, the Peruvian Air Force also ordered a Boeing 707 equipped with a three-point tanker modification kit from Israel, which was given the serial FAP 319 and assigned to GA No.8 in the late 1980s.

In late 1982, the conversion of the M5P to the MP-264 update began at SEMAN facilities under the codename of Proyecto Fenix (Project Phoenix), with Mirages serials FAP 184, FAP 187, FAP 189 and FAP 197 being the first airframes to enter the works. Modifications on these first four aircraft took over a year to be completed, and these airframes were handed back to EA.611 between October and November the following year.

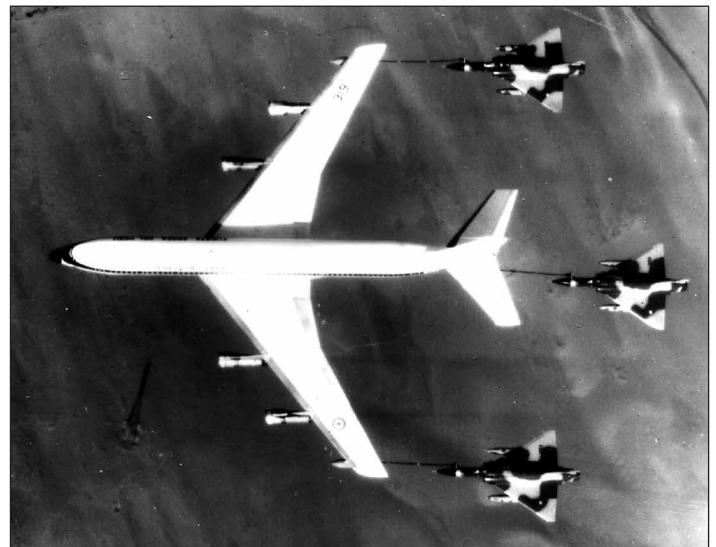
The upgrade programme, however, suffered constant delays caused by budget cuts, and it was only by the end of the decade that the last upgraded Mirage 5P4 was finally handed over to EA.611. In addition to these problems, the second half of the 1980s also proved to be a grievous period for the Mirage 5 fleet, with several incidents leading to the loss of a pair of Dardos (the nickname for Mirage 5s in Peruvian service). The first took place on 10 March 1987, when the M5P4 serial FAP 189, one of the recently upgraded airframes, crashed during a



In the summer of 1981, the Peruvian Air Force and AMD-BA celebrated a contract for the purchase of three Mirage 5 airframes with improved navigation and attack capabilities, as well as an upgrade package for 15 additional units, giving the FAP a new precision strike aircraft. Here, one such machine undertakes the firing of a live Vympel R-3S air-to-air missile. (FAP via José Barrera)



Boeing 707 serial FAP 319, known locally as *La Bestia* (the Beast), was a specially modified transport aircraft fitted with a three-point refuelling system. This image shows an AMD-BA Mirage 5P4 being refuelled. (Cesar Cruz)



In the late 1980s, the Peruvian Air Force purchased an ex-Israeli Air Force Boeing 707 which had been converted to a refuelling aircraft. The aircraft, identified with the serial FAP 319, is seen providing aerial refuelling for a trio of Mirage 2000Ps from EA.412 during a training exercise held in the late 1980s. (IEHAP)



A trio of Mirage 5P4s armed in Combat Air Patrol configuration with Vypel R-13M heat-seeking air-to-air missiles. Note that the last aircraft of the formation lacks the type's characteristic IFRP. (Cesar Cruz via Lewis Mejia)



An AMD-BA Mirage 5P4 armed with eight Snakeye practise bombs in two RBK-10 pods parked on the tarmac of Teniente Coronel Pedro Ruiz Gallo AB in Chiclayo in the early 1990s. (César Cruz via Lewis Mejia)



An EA.611 Mirage 5P4 at Las Palmas AB during the ceremony for Military Aviation Day held on 23 July 1994. The aircraft is armed in an interdiction configuration, with two RBK-10 pods each loading four 110lb practise bombs, plus two Vypel R-35 for self-defence. (Herbert Alcorta)

training flight, with its pilot managing to eject safely. Then, a year later, on 18 May 1988, EA.611 lost two officers when the M5DP4 serial FAP 196 crashed during a training sortie.

New capabilities and New Tactics

The Mirage 5P4's navigation and attack system allowed the crews from EA.611 to develop new tactics to get the most out of the aircraft's

new inertial navigation and attack capabilities. Especially interesting were the tactics developed to deal with naval targets, mainly the Chilean and Ecuadorian Leander-type frigates, equipped with Seacat and Seawolf missiles. Since the radar warning and electronic-countermeasure systems had been left out of the P4 upgrade due to budget restrictions, the officers in charge of planning operations devised a plan that, by having support from EA.111 Su-22s, would ensure the greatest chances of success for the attack formation. The operation contemplated the employment of a pair of M5P4s – randomly armed with either eight Mk.82 Snakeye bombs on RPK-10 pods or SNEB rockets on MATRA JL-100 pods – approaching their targets while, simultaneously, a single Su-22 would do the same at the same distance, but from a different angle and at a slightly higher speed. The Sirena-2 radar warning system aboard the Sukhoi would allow its pilot to know if the ship's fire control radar had identified him and achieved a lock on, and once this system alerted the pilot of an imminent launch, he would proceed to break away at full afterburner, heading in the opposite direction. The aim of this manoeuvre was to keep the ship's fire control radar 'busy' so that in the seconds the targeting system took to lock onto the next objective (the approaching Mirages, in this case), the attacking aircraft would be too close, and it would be too late for the vessel's anti-aircraft system to respond. Also, if the Sukhoi pilot did not identify a lock on his aircraft once within enemy missile range, he could then inform the Mirage pilots of this, allowing them to disengage.

Another tactic developed around this period consisted of night attack operations using the CAB-250/200MH. A leading M5P4 would enter the target area and drop one of these devices from an altitude of 3,000ft, illuminating the entire area for the attack package coming seconds after. The improved navigation and attack capabilities of the M5P4 allowed EA.611 to include airfield suppression operations among the missions that could be launched by the unit using the newly



A pair of Mirage 5 aircraft from EA.611 parked on the tarmac of Las Palmas AB in late 1994. Note the Mirage in the foreground carries a pair of RPK-10 fuel tank/bomb rack pods and is equipped with APU-13 racks for Vympel R-3S missiles. (César Cruz via Lewis Mejia)



One of the first Mirage M-5P4s delivered to EA.611, seen over the glaciers of the Callejón de Huaylas in Ancash during a navigation exercise in late 1984. (FAP via José Barrera)



Ground personnel from Escuadrón de Mantenimiento 116 servicing this Su-22U Fitter-E, identified with serial FAP 029 assigned to EA.111, under the bright sun at Talara in 1990. (Carlos Takahashi via Juan Arraez)



Sus-22 Fitter-F from EA.111 demonstrating the different angles of attack the variable geometry wings could be positioned at. (IEHAP)

acquired Thompson-Brand Armaments Bombé Accélérée de Pénétration (BAP)-100 and its training version, the F-7.

Also, operations planning became less tedious due to the introduction of the Mission Planning Module, a system which allowed the planning of a mission using a single navigation card from the attack sector, carefully calibrated and detailed, which was inserted into the navigation system by means of an external memory. This allowed the mission parameters to be loaded to several aircraft assigned to the operation at the same time, effectively reducing the data exchange times and errors.

Situation Before the Conflict

By the end of Alan Garcia Perez's presidential mandate in 1990, the country's economy was reduced to rubble. As a direct consequence of the economic crisis, there were severe shortfalls in funding for the armed forces: whatever was available was diverted to COIN operations, which resulted in a marked decrease in operational readiness of all units, the result of low maintenance and lack of spare parts, as well as a reduction in flight-hours for crews.

On 4 August 1994, a M5DP4 crashed due to engine failure during a routine flight, with the loss of both occupants. As a consequence of this incident, the FAP high command ordered the entire Mirage fleet to be grounded while an inspection was launched on every single airframe. Investigations were completed by December that year, but flight activities could not resume immediately as the required factory certification failed to arrive in time due to outstanding payments owed by Peru to Dassault Aviation for the purchase of 12 Mirage 2000P fighters.⁶ The situation had not been solved by the time of the border crisis, and, as a consequence, EA.611 had no airworthy Mirages at the time the FAP was called to arms. With only a couple of airframes undergoing a hurried maintenance and repairs at SEMAN facilities at Las Palmas, the situation of the unit at the beginning of the conflict remained difficult. As consequence, the FAP command ordered EA.611 to perform the recovery of as many airframes as possible, keeping their M5P4s as reserve in case of a conflict escalation and generalisation into all-out war.



At the time of the conflict, GA No.7, composed of EA.711 and EA.712, had a total of 24 Cessna A-37Bs on strength, of which only two were in flight condition. By the end of January 1995, thanks to the emergency work carried out by the 706th Maintenance Squadron, 12 aircraft had been recovered and put in combat-ready condition. (Herbert Alcorta)



EA.412 operations at La Joya AB in Arequipa. A Mirage 2000P, registration FAP 064, prepares to take off on a routine mission in 1993. (FAP via Carlos Chávez Cateriano)



Armed with a pair of practise bombs and two LAU-3A launchers, this Cessna A-37B Dragonfly from Air Group No.7 paid a visit to Las Palmas AB on 23 July 1993. (Dan Hagedorn)

Fate of the Canberras

At the end of the 1980s, Grupo Aéreo No.9 (Air Group No.9, GA No.9) maintained 70 percent operability in its aircraft thanks to maintenance work on its structures and extended life on its engines carried out by SEMAN. However, the Canberra fleet faced a serious obsolescence problem as all of the EA.921 fleet lacked on-board electric countermeasure systems – such as radar warning receivers

and chaff and flare dispensers – as well as modern navigational equipment, all of which was necessary in a modern air warfare environment. This was caused by the severe budget cuts experienced during the last years of the 1980s due to the fact that a large percentage of the defence budgets were allocated to the war on terrorism. In the light of the new decade, the bombers continued to serve with practically the same systems they were fitted with when the aircraft had arrived 35 years previously. Accordingly, the use of the 'stock' Canberra in an area with disputed air superiority or with the presence of heavy AAA, SAMs or MANPADS was considered nearly suicidal.

Enter the 'South Africans'

In early 1991, the FAP command, in response to urgent requests from EA.921 – aware of the new threats and requirements faced by its aging bomber fleet – decided to look for an alternative solution in order to keep the unit in operations with modernised airframes. A proposal from the South African company Anscord International offered five second-hand ex-South African Air Force (SAAF) Canberra model B(I)Mk.12s,

upgraded with Global Positioning System navigation aids as well as electronic countermeasures and radar warning receiver (RWR) systems, for nearly \$3 million. The offer included a large package of spare parts – including several engines – as well as training in the use of new equipment installed on the aircraft by the South Africans. The aircraft that were offered still had a significant lifespan ahead of them as these airframes belonged to the last Canberra batches that

were manufactured, delivered from 1963. After an assessment and subsequent approval of the proposal by the Comité Técnico de Adquisiciones (Committee for Technical Acquisitions, CTA), the Peruvian government launched efforts to allocate funds with which to complete this acquisition.

The aircraft were ferried to Peru on a long-distance flight that comprised the following stages:

- Waterkloof (South Africa)–
Roikoff (Namibia)
- Roikoff–
Libreville (Gabon)
- Libreville–Abidján (Ivory Coast)
- Abidján–La Sal (Cape Verde Archipelago)
- La Sal–Natal (Brazil)
- Natal–Manaos (Brazil)
- Manaos–Lima.

This flight started at Waterkloof AB on 18 December 1991, and – after some delays caused by the need to repair the nose landing gear of one of the aircraft damaged after an abrupt landing at Libreville-Gabon – was successfully completed, with all aircraft landing at Las Palmas AB at 1700 hours on the first day of January 1992.

A few months later, a sixth ex-SAAF Canberra – this time a T.Mk 74 trainer – was delivered to the Peruvians, receiving the serial number FAP 205. While the SEMAG had originally considered using this airframe as a source of spare parts, after a re-evaluation of its overall condition, it was decided to press it into service as a replacement of FAP 246, another T.Mk 74 trainer, as the ex-SAAF aircraft was in better condition and had more hours remaining on its airframe.

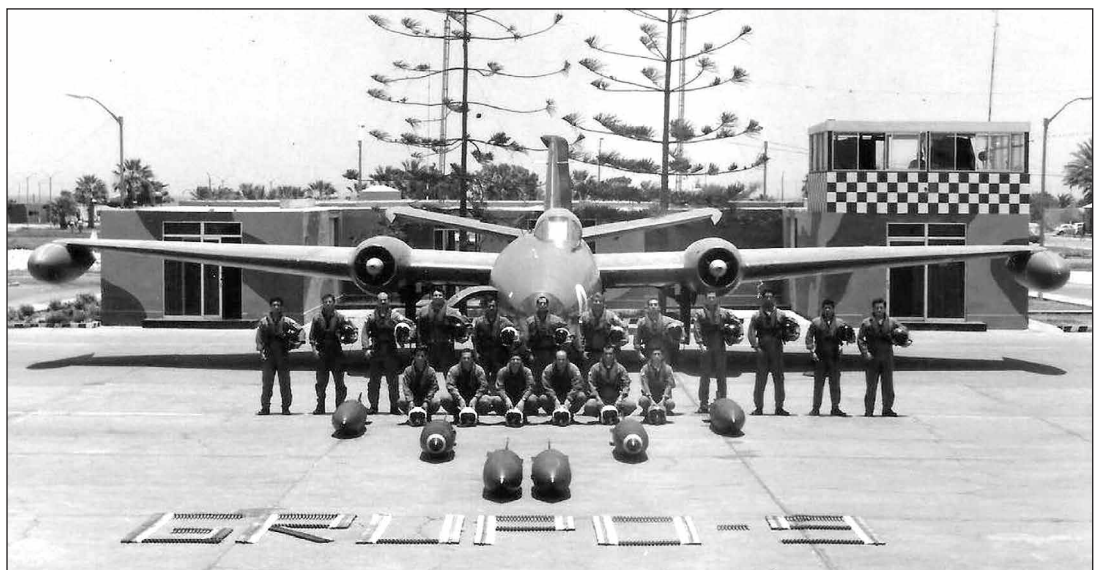
On 1 December 1992, and while a formation of EA.921 aircraft – composed of two B(I) Mk 68s and a couple of the recently arrived B(I) Mk 12s – were conducting a rehearsal over



A BAC Canberra B(I)Mk 68 from EA.921 and its impressive payload capacity on display on the ramp of Air Group No.9, while a Mi-25 from EA.211 performs a low altitude pass during a ceremony held at the Capitán FAP Renán Elías Olivera Air Base in Pisco in 1989. (Rolando Cardenas Brou)



In early 1991, the FAP took delivery of five ex-SAAF BAC Canberra B(I)Mk.12 airframes. These aircraft had been upgraded with Global Positioning System navigation systems as well as electronic countermeasures and RWRs, which allowed their operation in modern air warfare environments. (Danny Moeri)



Crews from EA.921 in December 1994 in front of one of the four Canberra B(I) Mk.12s assigned to the unit. The control tower of Grupo Aéreo No.9 at Capitán Renán Elías Olivera AB in Pisco can be observed behind. (Miguel Acosta)



The Sukhoi Su-22 Fitter-F serial FAP 166 on the tarmac of Las Palmas AB shortly after arriving at the SEMAN facilities to undergo a major inspection in 1993. (FAP)

the city of Pisco for an aerial display to be held a few days later at Las Palmas AB, two of the aircraft collided in mid-air. The supplementary fuel tank from one of the B(I)Mk 68s separated from the wing and cut off the tail of the Canberra serial FAP 249, which fell out of control over the city centre and crashed near a church and school, killing its crew – Major Tony Pinedo Manzur and Enrique Lengua Ruiz – and 15 civilians, with more than 40 people injured.

At 0230 hours on 13 January 1995, the Air Group No.9 Commander, Colonel Miguel Acosta Cabrera – who had been sworn into this position only the previous day – received a coded message from Ala Aérea No.3 Commander, Major General Gustavo Romero, stating '*Vistete de Rojo*' (Dress in Red), the order calling the unit to arms, requesting EA.921 to prepare a minimum of four aircraft ready to enter into action during the following days. The squadron aircraft strength situation, however, was far from optimal, as while the unit had four aircraft on its strength, only five Rolls-Royce R.A.7 Avon Mk.109 engines fitted to these aircraft were in running condition. The Escuadrón de Mantenimiento 906 (906th Maintenance Squadron), under Commander Walter Estremadoyro, kept a considerable number of engines which had hours exceeding their limits awaiting overhaul, as well as many others which had their compressor blades damaged by Foreign Object Debris (FOD) outside the permissible limits. Given the urgent need to bring these engines back to running status, the maintenance personnel carried out a special inspection on the engines which had exceeded their hour-limit, while a reconditioning (blending) was carried out on those with damaged compressor blades according to what was indicated in the aircraft's maintenance manual, bringing these engines back to serviceable condition and fulfilling required performance demonstrated in runs and tests.⁷

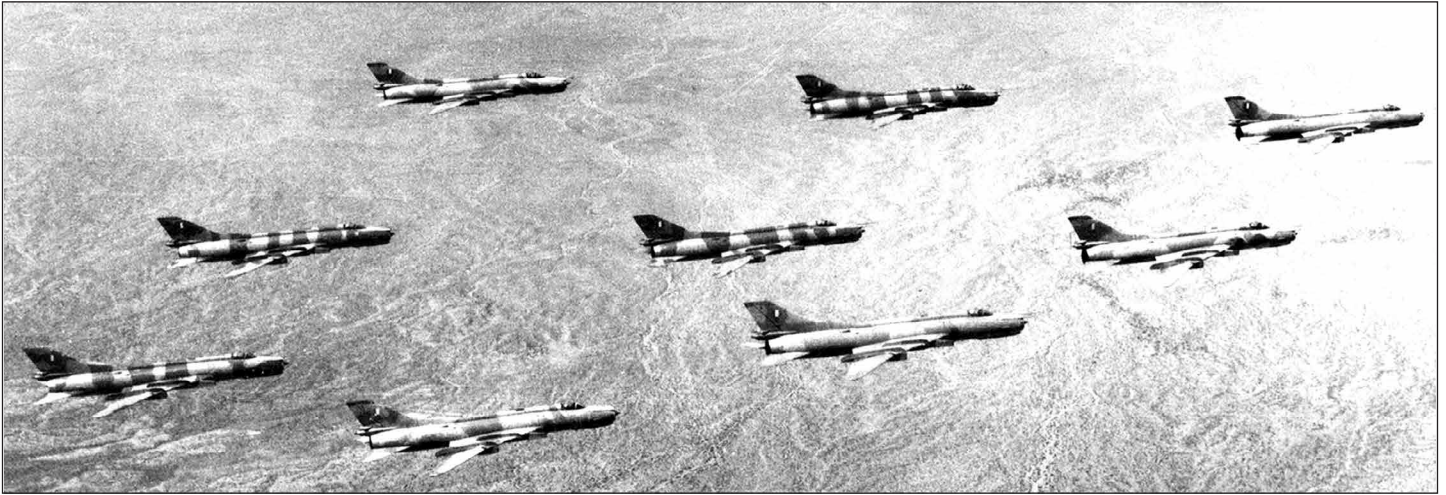


Captain Briceño poses in front of the Su-22 Fitter-F serial FAP 001 shortly after his assignment to EA.111 in early 1990. The aircraft is loaded with four MBD3-U6-68 multiple bomb racks, carrying six OFAB-100 120kg bombs each, and a pair of Vympel R-35 heat-seeking air-to-air missiles. Note the presence of the French-made IFRP fitted in the starboard section immediately after the cockpit. (FAP via José Barrera)

Los Tigres: Sukhoi Su-22

After their successful participation in the Falso Paquisha conflict, and until the arrival of the Mirage 2000Ps, the Sukhoi Su-22 fleet remained the FAP's combat aviation spearhead. Losses, however, were not long in coming. One of the new Su-22M Fitter-Js of EA.411, registration FAP 168, crashed on 29 November 1984 during a routine exercise. Its pilot deployed the K-36 ejection seat and abandoned the aircraft before impact.

The second half of the 1980s and the first half of the 1990s did not bring substantial change for the Su-22 fleet. The disintegration of the USSR, however, caused a serious logistical crisis in terms of spare parts – especially for engines – which caused a rapid decrease in operational readiness, adding to the already serious maintenance problems caused by the budget reductions of the late 1980s. Despite this situation, work was carried out to improve the fleet's operability, starting with the launch of a limited modernisation programme which included the installation of Western-origin navigation equipment in lieu of the Soviet-made ARK-15M automatic radio compass, as



An impressive formation of Su-22 Fitter-Fs from EA.111 flying over the typical desert terrain found along the northern Peruvian coast. (FAP)

well as the modification of the variable geometry system of the wings, which allowed the wing to be set at the minimum angle of attack (30°) simultaneously with the landing gear extension, both of which were carried out at SEMAN. Another local modification implemented by maintenance personnel from EA.111 and EA.411 during this period included the adaptation of the bomb supports to accept the French-made TDA BAP-100 anti-runway bombs.

One of the main issues of the Su-22's Tumansky R29-BS-300 engine was its high fuel consumption, which translated into a limited range – and payload – for the aircraft. A corrective measure to this problem was attempted in the late 1980s under a programme code-named Alpha-2, part of the so-called 'Proyecto Fenix' (Project Phoenix), for the Mirage 5P fleet, and included – among other updates – installation of an in-flight refuelling probe. The Alpha-2 programme contemplated the adaptation of a French air refuelling probe, identical to that installed in the Mirage 5P4. This, however, required extensive modification to the Su-22s' fuel supply system, as – unlike Western aircraft – the Su-22s did not have a single recharging point. This modification was implemented in the SEMAN facilities on the Su-22 serial FAP 001, which was used as a test bed, by



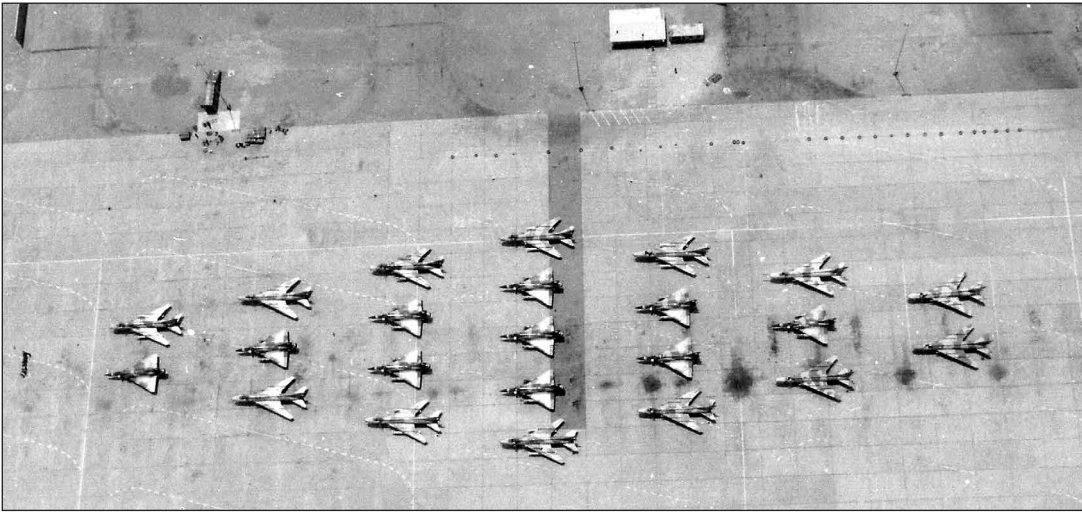
The Peruvians found that the Fitter was expensive and complicated to operate. During the type's first years of service, aircraft requiring major inspection and repair had to be shipped to the USSR in order to complete such work. It was only in the late 1980s that SEMAN was allowed to carry out this work locally, saving the FAP a lot of money. (FAP)



A Su-22M Fitter-J from EA.411 displays the plethora of weapons, both air-to-ground and air-to-air, that it could carry – depending on the mission – during an exhibition held at Las Palmas AB on 23 July 1993. (IEHAP)



Impressive shot of a formation of Fitter-Js from EA.411 flying over the mountains and glaciers of the Peruvian Andes during a navigation flight carried out as part of the Programa de Entrenamiento (training programme) of 1993. That proved to be the last one for the unit, which was disbanded that year and its aircraft assigned to EA.111 in Talara. (FAP)



A total of 13 Su-22Ms and 10 Mirage 2000Ps formed on the ramp of Mariano Melgar/La Joya AB in Arequipa on 4 December 1991 as a show of force after the failure of the Pacto de Caballeros agreement signed by Ecuador and Peru in 1991. (Ivan Izquierdo)



Line-up of Su-22M fighter-bombers at Mariano Melgar/La Joya AB in December 1991. (Ivan Izquierdo)



The camouflage scheme of this Fitter-J registration FAP 181 is one of several details that make this aircraft interesting. This Su-22M is armed in the air base suppression configuration and carries a pair of UM-32 rocket launchers, a 23mm UPK-23 twin gun pod as well as a double pack of French-made Brandt BAP-100 runway-breaking bombs in a 30-6-M2 adapter. (Herbert Alcorta)

adapting the probe in the rear starboard section of the cockpit. Aerodynamic tests ensued, and these provided positive results as the installation of the probe did not affect the flight characteristics of the aircraft. Despite the encouraging results, the project came to a halt since the funds required to complete the modification in all the Su-22 fleet could not be released, considering that over 30 aircraft were to be modified to that configuration. The shelved programme was revived in mid-1992, when the FAP HQ launched a plan for the recovery of the fleet, and the possibility of implementing this project was again brought into discussion. Unfortunately, economic factors once more caused the abandonment of this promising project in early 1993. Another consequence of the recovery programme was the deactivation, in January 1993, of EA.411 and the reallocation of its Su-22Ms as part of EA.111.

A significant event in Su-22 operations took place on 24 April 1992, when a pair of Fitter-Fs took off from El Pato AB in Talara to intercept an unidentified aircraft which had entered Peruvian airspace and was flying north-west at full speed. Following guidance from ground radar, which placed them in interception vector, the Sukhois found the intruder – an unmarked C-130 Hercules – flying at high speed approximately 56km from the coast – beyond the 12 miles of sovereignty recognised by the United States of America, but not the 200 miles claimed by Peru according to the *Declaración de Santiago de 1952* and the *Convenio sobre Zona Especial Marítima de 1954*.⁸ When the Peruvian aircraft began radio and visual warning interception procedures, their pilots obtained no response from the C-130 crew. After completing all communication procedures, the EA.111 pilots requested orders from operations control



The An-26's poor performance at high altitude and in hot temperatures led the FAP to the decision to scrap them and, after brief negotiations with the USSR, issue an order for 16 airframes of the much more powerful and capable Antonov An-32B as replacement. One of these units is shown on the ramp of the Gando air base in Las Palmas, Canary Islands, during its flight to Peru on 9 September 1987. (Juan Arraez Cerda)



In late 1991, the Peruvian government acquired from the China National Technology Import and Export Corporation (CATIC), based in the city of Harbin, six Y-12 II aircraft to complement the dwindling numbers of de Havilland DHC-6 Twin Otters operated by Escuadrón de Transporte 421. The purchase of these aircraft – still in the prototype stage and devoid of aero navigation certification – by the then economically broken Peruvian government was a product of necessity: China agreed for the aircraft to be paid for in raw materials. (IEHAP)



CATIC and Chinese military personnel in Lima during deliveries of the Y-12 transport aircraft to the Peruvian Air Force. Compared to the de Havilland DHC-6 Twin Otter, the Y-12 had a shorter wingspan, less autonomy and payload, with the additional downside that it could not be equipped with floats. The only favourable point was its avionics, as the Y-12 was fitted with state of the art instrumentation and avionics, including a Bendix 1600 radar and Omega navigator with an error of up to 5 miles, equipment that was very much appreciated by the crews accustomed to flying over the vast Amazon forest with only charts and visual terrain reference. (DIRAF)

at Talara. They received authorisation to open fire, first as a warning – which had no effect on the C-130 crew – and then against non-vital parts of the aircraft, with the cannon rounds punching a hole in the Hercules' fuselage. It was only then that the C-130 crew replied to the interceptors' calls and turned around, heading for the Peruvian coast and landing at El Pato AB. There, the aircraft was identified as a C-130H Hercules SIGINT/ELINT belonging to the 310th Airlift Squadron, US Air Force (USAF) based in Panamá, flying an anti-narcotics electronic intelligence sortie. Unfortunately, a USAF-crew member died in the incident when he was sucked into the hole in the fuselage caused by the impact of 30mm rounds fired by the Su-22s' Nudelmann-Rikhter NR-30 cannons.

Shortly before the conflict, a second modernisation programme – again limited due to the budget allocated – was implemented in 1994. This consisted of the installation of GPS navigation equipment and the Collins ARC-182 radio, the latter replacing the old Soviet-origin R-802G versions on the Su-22A and the R-832 installed on the Su-22M. During the years immediately before the conflict, not only was the equipment and maintenance situation critical for Peruvian aviation, but training hours had also been affected, and by 1994 the PDE for crews had been reduced from 130 to just 30 hours.

Colonel José Gabriel Bustamante took command of EA.111 on 9 January 1995, and upon inspection of the unit found that only a single Su-22 out of four aircraft available was in airworthy condition. Ten days later, the unit received 'red alert' orders from FAP HQ, which was the starting point for weeks of almost non-stop work launched by the Escuadrón de Mantenimiento 116 (116th Maintenance Squadron, EMA 116) at El Pato AB aimed at



An Antonov An-32B from EA.842 parked on the tarmac of Grupo Aéreo No.8 in Callao in the early 1990s. Due to its excellent performance at altitude and flying from poorly prepared fields, the An-32 would carry the burden of cargo operations in the upcoming conflict. (IEHAP)



Taken at Las Palmas AB on 23 July 1994, this image shows a Y-12 taxiing in front of a line of aircraft that includes a BAC Canberra B(I)Mk.12 and a Gates Learjet 25B. (Herbert Alcorta)

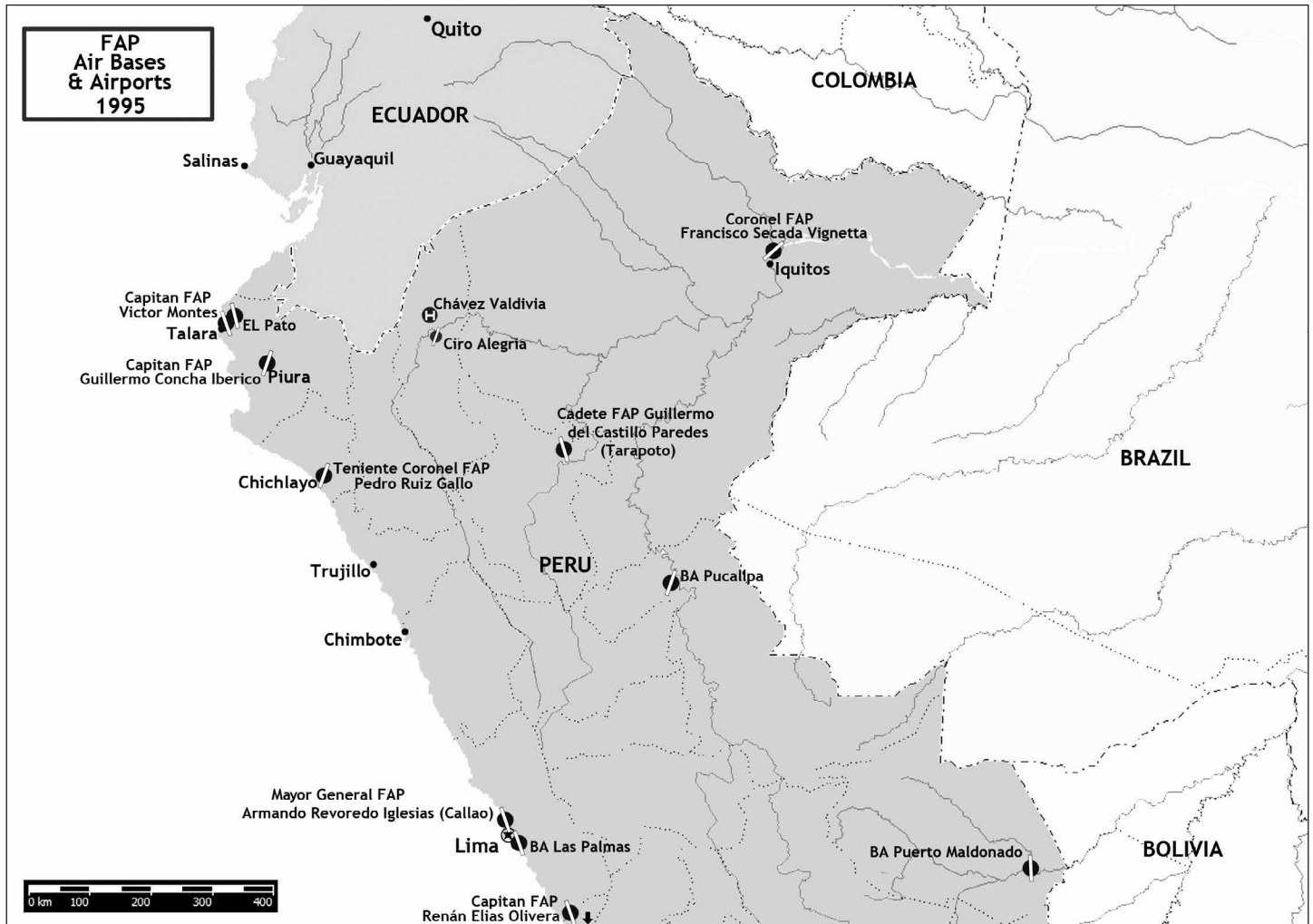
bringing back to airworthy condition as many Su-22 aircraft as possible by repairing, manufacturing and also through cannibalising the required spare parts. Orders were issued for the manufacture of decoys, which were placed in several different locations around the base as well as along the road connecting El Pato with Capitán FAP Víctor Montes Arias airport, located just a few miles to the west.

Air Defence

The situation regarding air defence on the eve of the 1995 conflict was no different than that faced by other FAP units. Due to budget cuts, maintenance levels for radars, fire direction equipment as well as missiles associated with the S-125 Pechora (ASCC/NATO codename SA-3 Goa) medium-range surface-to-air missiles were in a precarious situation. In contrast, the situation for MANPAD systems was much better, with an operability reaching 80 percent.

The overall status of FAP aircraft as of January 1995 was as provided in Table 2.

| Table 2: Status of FAP Aircraft, January 1995 | | | |
|---|-----------|--------------------|-------|
| Type | Available | Undergoing Repairs | Total |
| Su-22/Su-22M | 7 | 37 | 44 |
| Mirage 2000P | 5 | 7 | 12 |
| Mirage 5P4/DP4 | 0 | 13 | 13 |
| Canberra | 5 | 14 | 19 |
| Cessna A-37B | 2 | 22 | 24 |
| AT-27 Tucano | 6 | 21 | 27 |
| Mi-24/25 Hind | 6 | 13 | 19 |
| An-32 | 10 | 3 | 13 |
| Learjet 25/36B | 4 | 0 | 4 |



A map of major air bases of the FAP as of 1995. (Map by Tom Cooper)

3

AERIAL OPERATIONS 25 JANUARY – 14 FEBRUARY 1995

The FAE high command had activated its campaign plan on 25 January 1995, allowing the deployment of its combat units. However, it is known that the Ala de Combate No.21 had already been carrying out electronic warfare operations along the border since 12 January. With reports about attacks on EP troops in the Cenepa River valley, Peru's President Alberto Fujimori ordered the activation of the defence plan for the armed forces. In the case of the FAP, the Primera Region Aérea Territorial (First Aerial Territorial Region, I-RAT), which included Ala Aérea No.1 (1st Air Wing, AA No.1), and the Quinta Region Aérea Territorial (Fifth Aerial Territorial Region, V-RAT), which included Ala Aérea No.1 (1st Air Wing, AA No.1) and Ala Aérea No.5 (5th Air Wing, AA No.5) – the latter including the Grupo Aéreo No.42 (Air Group No.42, GA No.42) – were placed on alert and the *'Acción Inmediata'* (Immediate Action) operations plan entered into effect. Simultaneously, the *Doble Asignación de Funciones* (double assignment of duties) command was activated for all personnel. Interceptors of the FAP were active early in the morning: at 0630 hours, a pair of Mirage 2000Ps flown by Major Garcia Esquerre and Captain Chávez Cateriano scrambled from Mariano Melgar/La Joya AB with orders to head north and patrol along the coastline between Talara and the border, landing at El Pato AB at 0830 hours.

26 January FAP

EA.111 – At El Pato AB, home of GA No.11, the personnel from Escuadrón de Comunicaciones y Electrónica No.116 (116th Communications and Electronics Squadron) and Escuadrón de Mantenimiento No.117 (117th Maintenance Squadron) entered what would become known as one of the most intense work periods in EA.111 history. That morning, an order arrived to arm a Su-22M, identified with serial FAP 174, in reconnaissance configuration, equipped with a KKR-1 pod and two R-13M missiles, for a sortie programmed for the evening. This work was carried out during the course of the day. After completing this assignment, ground personnel were kept busy with the rearming of the aircraft in the flight line with cannon ammunition, BAP-100 anti-runway bombs and FAB-250 general purpose bombs. During the following days, the group's maintenance hangar would become known as 'the factory' due to the number of aircraft being worked on inside, where technicians worked in 24-hour shifts, pausing only for food. Life at this base was not pleasant; with temperatures rising up to 42 degrees centigrade during the day, dehydration was a constant concern, and the base's medical personnel were available at all times along the flight line. Lack of water,



An Aérospatiale AS-332 Super Puma from the Escuadrón de Asalto of Grupo Aéreo del Ejército 44 'Pastaza' departs from a helipad located in the Cenepa River valley during the last days of January 1995. (Jorge Delgado)



The Ecuadorian Air Force ordered nine de Havilland Canada DHC-6 Twin Otter STOL aircraft in 1974, forming Escuadrón de Transporte 1113, which was also known as the Escuadrón Twin Otter (Twin Otter Squadron). Here, a DHC-6 of this unit lands at Macas airport during the air bridge set up for the supply of troops and ammunition launched during the second half of January 1995. (FAE via Santiago Rivas)



An SA-316 Alouette III from Escuadrón de Combate 2211 leaves the runway of Macas airport, some 60 miles from the operations area. At the beginning of hostilities, this SAR unit, part of Grupo de Combate 211, had a detachment of aircraft at Lago Agrio, in Loja province and these aircraft, along with the Super Pumas from GA.44, were heavily engaged in liaison and transport operations between Ecuadorian Army bases and the forward posts in the Cenepa River valley. (FAE via Santiago Rivas)

an endemic problem along the Peruvian desert coastline, made personal hygiene complicated, but local creativity and resourcefulness by the Peruvians turned a discarded 5V24/5V27 missile container from a S-125 Pechora/SA-3 Goa anti-aircraft surface-to-air system into a water reservoir for daily use.

EA.211 – At the moment hostilities began, EA.211 had six Mi-25s deployed at El Pato AB in Talara, where they had arrived a day earlier as part of a navigation exercise. Thus, in compliance with the order for the deployment of air units, on that morning three of these helicopters were flown from Talara to Ciro Alegría EP base, a dirt runway located the closest to the area of operations. The remaining three Hinds were kept at this base in 'alert' readiness in the event of a widespread conflict.

EA.412 – The pair of Mirage 2000Ps deployed to El Pato AB scrambled at 0530 hours in order to perform an armed patrol over the coastline between Talara and Tumbes. The aircraft were each armed with two MATRA R.550 Magic 2 missiles and full ammunition for their DEFA cannons, and returned to base at 0710 hours.

SEMAN – In the meantime, at the SEMAN facilities in Lima, maintenance and repair work also intensified. A total of four EA.111 aircraft (three Su-22s and one Su-22UM-3K) were undergoing repairs in these facilities at the time, while a pair of Mirage M5P4s were also at Las Palmas awaiting inspection and minor repair. With the alert declared by FAP command, SEMAN's operations manager, Colonel Rolando Cárdenas Brou, ordered an increase in the pace of maintenance and repair operations work in order to bring back to airworthiness – in the shortest possible time – these much-required airframes. The hard work of the technicians and specialists from this unit made possible the return of the aircraft to flight conditions within a few days, with Su-22M2 serial FAP 163 – whose Tumansky R-29BS-300 engine had been completely repaired by SEMAN technicians – being the first airframe to roll out of the workshop wearing a new colour scheme in shades of green and grey, which was more appropriate to the theatre of operations. This aircraft performed its test flight on 29 January in the hands of Captain Carlos Lambruschini and was flown to El Pato AB immediately afterwards. Meanwhile, SEMAN personnel provided maintenance and minor repairs to four Aermacchi MB-339s as well as repairing both the anti-FOD grids and the engine blades of half a dozen Cessna A-37Bs. Finally, a total of eight Embraer AT-27 Tucanos also received new camouflage schemes in accordance with the new theatre of operations.

27 January FAE

EC.2112 – The first combat operation carried out by the Mirage F-1JAs was a sortie flown at 1200 hours by Espectro flight, comprising Major Luis Rivera and Captain Carlos Uscategui aboard Mirage F.1JA



At the beginning of hostilities in the Cenepa River valley, a trio of aircraft from EA.111 (a pair of Su-22 Fitter-Fs and one Su-22UM-3K) were kept at SEMAN facilities at Las Palmas AB awaiting repairs and inspection. With the red alert in full effect from 25 January, work on these airframes intensified and they were brought back to airworthiness in less than 48 hours. (Rolando Cardenas)



FAP 160 was another of the EA.111 aircraft present at the SEMAN facilities at the beginning of the conflict. The distinctive bulge of the Tumansky R-29-engined Fitters can be seen to advantage in this image. (Rolando Cardenas)



SEMAN personnel crawling on and around a Sukhoi Su-22 as maintenance work is performed on the airframe identified with serial FAP 163, one of the EA.111 aircraft at Las Palmas at the beginning of the conflict. (Rolando Cardenas)

serials FAE802 and FAE806. The pair of pilots had been waiting in the cockpits during a two-hour alert from 1000 to 1200 hours when the scramble order arrived after a 'bogey' was identified flying towards the border at high speed. In less than five minutes, the two interceptors were in the air and heading towards the objective. As the unidentified aircraft (actually a Su-22M from EA.111 carrying out an ELINT sortie) reached the border, it quickly changed direction, heading west. After patrolling over the border line for several minutes, the Espectro flight returned to Taura AB.

FAP

EA.111 – An electronic reconnaissance sortie was flown by a Su-22 equipped with a KKR-1 pod and two R-13M missiles at 1230 hours. The aircraft flew north-east towards the border, escorted closely by a pair of Mirage 2000Ps from EA.412. The aircraft returned to El Pato AB at 1345 hours.

EA.211 – The Hinds entered the melee at 1140 hours when two Hind-Ds and an Eco-Papa Mi-8T took part in a successful attack against Ecuadorian forces located in PV Soldado Monge.¹ During this attack, one of the Mi-25s received hits from small-calibre weapons, but the mission was completed and the formation returned to Ciro Alegría shortly afterwards.

Back in Ciro Alegría, the EA.211 detachment commander received the order to carry out an attack on the Ecuadorian post called Falso Cueva de los Tayos as preparation for a ground assault to be launched by BIS No.25, whose troops were already in the vicinity of this objective after a two-day march. In order to fulfil this mission, a formation composed of a Mi-25, a Mi-8T and a Mi-17 – each armed with four UB-32 rocket pods – took off from this base and headed north-east towards their target. After a flight of 35 minutes, the helicopters arrived



Combat aircraft leaving SEMAN facilities after repairs received a paint scheme more in accordance with the theatre of operations. The Su-22 Fitter-F serial FAP 163 is seen before taking off on a test flight, sporting its new colours, after completing its repairs. (Rolando Cardenas)



With Captain Lambruschini at the controls, the Su-22 serial FAP 163 taxis towards the runway of Las Palmas AB before taking off on a test flight on 26 January 1995. (Rolando Cárdenas Brou)



Su-22 serial FAP 163 takes to the skies at Las Palmas for a validation flight after completing its repairs. After landing, the aircraft was declared operational and immediately flown by Captain Lambruschini to El Pato AB in Talara. (Rolando Cardenas Brou)

at their objective and hammered the Ecuadorian position with rocket fire. The attack was successful and Falsa Cueva de los Tayos fell to the elements of BIS No.25, who were progressing from PV-1 and the area known as the 'Y', an hour later.²

On that afternoon, the Hinds with serials FAP 646 and FAP 653 arrived at Ciro Alegría in order to reinforce the FAP presence in the area. These aircraft were part of the EHC 211 detachment deployed to Tingo Maria and were elements of the aerial component for the Huallaga River front, where they had been assigned to operate against Sendero Luminoso remnants.

EA.412 – A pair of Mirages flown by Major Castro Malarin and Captain Chávez Cateriano scrambled from El Pato AB at 0500 hours with orders to patrol the air space over the coastline between Talara and the border in Tumbes, returning to base at 0706 hours. A similar mission was launched at 0925 hours, flown by Commander Mosca and Major Chaparro, returning at 1000 hours and a final one at 1200 hours, flown by Commander Vojvodic and Commander Mosca. During this last mission, while the aircraft were flying over the coast at Tumbes, a pair of 'bogies' were detected some 150km to the north, flying at a height of 5,000ft. After nearly two hours in the air, the pair of Mirages returned to El Pato at 1340 hours.

In the evening, the EA.412 detachments at Talara and Chiclayo took delivery of several liquid nitrogen gas containers, required for the cooling of the MATRA R.550 Magic Mk.2 seeker, which were flown from

Lima by the transport aircraft from GA No.8.

EA.921 – After a week of intense work by the men from Escuadrón de Mantenimiento No.906, the repair and overhaul of four Canberra B(I) Mk.12 aircraft and one B(I).68 of the unit was completed, leaving the unit ready for action.

GA No.8 – At 0600 hours, an air bridge between Lima and the El Valor airstrip in the city of Bagua was launched by the Lockheed EA.841 and 843, flying L-100 Hercules and Antonov An-32 aircraft, while two additional airfields located nearby – Mesones Muro (1,800 metres long) and Shumba (Jaen) (1,500 metres long) – were promptly



SEMAN also had Mirages from EA.611 stored while awaiting the arrival of funds for their inspection and maintenance. This Mirage 5P4, identified with the serial FAP 192, was one of the aircraft brought back to airworthiness during the first days of February 1995. (Rolando Cardenas Brou)



In the meantime, work on the other Fitters continued at a steady pace, with this airframe being subject to an in-depth inspection by SEMAN personnel, who managed to get this Su-22 back into the skies only a few days later. (Rolando Cardenas)



Lieutenant General Enrique Astete Baca, the FAP Commander-in-Chief, discuss details with Major Sanchez del Solar and Captain Lambruschini (in flying gear) shortly after the completion of the evaluation flight for the first Su-22 overhauled by SEMAN in January 1995. (Rolando Cárdenas Brou)

enabled to support operations. The air bridge was extended to other aerodromes in the east and north of the country, as GA No.8 intensified its operations ferrying troops and supplies to different units.

GA No.42 – A Harbin Y-12 and a de Havilland DHC-6 Twin Otter assigned to this unit flew from Iquitos to Ciro Alegría airfield – the airport located closest to the area of operations – carrying ammunition, food and medical supplies for the EP troops. With the arrival of these aircraft, the first medical evacuation flights could also begin.

GA No.3 – Mi-8 and Mi-17 helicopters from EA.341 began ferrying troops, ammunition and supplies between Ciro Alegría and PV-1, the Peruvian outpost located nearest to the Ecuadorian infiltration area. A Mi-17 with serial 626 and a Mi-8, serial 650, from EA.341 took off from Ciro Alegría to carry out an attack on PV Teniente Ortiz, but the mission was cancelled due to poor weather over the area of operations.

28 January FAP

EA.111 – Four Su-22M2s, each one armed with four FAB-250-270 bombs (250kg), carried out an attack against Falsa Base Sur in anticipation of a ground assault to be launched by the BIS No.25 'Callao'. The attack was carried out without incident, with the four aircraft returning to El Pato AB two hours later.

EDA.118 – On Saturday, 28 January, a Destacamento de Defensa Aérea (Air Defense

Detachment, EDA) was transferred from Las Palmas AB to Air Group No.7 in Piura and deployed to different strategic locations around Capitán FAP Carlos Concha Iberico AB in compliance with the base's defensive scheme, with the main part of them at the point known as 'La Cincuenta', located on the route to Chulucanas near the Ecuadorian border.

EA.211 – No missions were launched due to adverse weather conditions over the operations zone.

EA.341 – At 0730 hours, a Mi-17 took off from Ciro Alegría on a mission to attack Ecuadorian positions in PV Soldado Monge. After following the course of the Santiago River for an hour, the aircraft arrived at its objective and completed the attack successfully, returning to Ciro Alegría at 0933 hours.

EA.412 – The unit launched a pair of patrols over the northern coastline, the first one involving a pair of Mirages flown by Major Bruno Papi and Major Briceño, who took off at 0415 hours, returning at 0754 hours. The second patrol, flown by the same pilots, occurred between 1100 hours and 1230 hours.

EA.712 – Two Cessna A-37B aircraft, each armed with four Mk.82 bombs with Mk.12 Snakeye retarding fins, took off from



The desert paint scheme worn by this Mi-8T from EA.341 made it highly noticeable against the green landscape found around Ciro Alegría EP base on the banks of the Marañón River, where it landed during a supply mission on 27 January 1995. (IEHAP)



The imposing silhouette of the Mi-25 combat helicopter can be appreciated in this image of an EA.211 aircraft photographed on the grass of Ciro Alegría base, located in the Amazonas department, during late January 1995. (DINIA)



A Hind from EA.211 prepares to take off from the dirt runway at Ciro Alegría forward base to carry out a combat sortie during the closing days of January 1995. (DINIA)

Capitán FAP Guillermo Concha Iberico AB at 1230 hours on a mission to attack Falso Base Sur, completing this task without incident.

29 January

FAE

EC.2112 – At 1030 hours, a pair of Cessna A-37s took off from Coronel Edmundo Carbajal airport in Macas, located in Morona-Santiago province, barely 100km from the conflict area, and headed to Coangos with orders to intercept a formation of Peruvian helicopters reported in the area. The aircraft arrived in the area 10 minutes after, but were unable to locate the objectives, returning to Macas shortly afterwards.

FAP

EA.111 – Following a request issued by the Air Force HQ in Lima, GA No.11 was ordered to gather information about the Ecuadorian radar and electronic communications along the north-western border. Consequently, a single Su-22M equipped with a KKR-1 reconnaissance pod took off from El Pato AB at 0600 hours, returning to base two hours later.

After completing a series of validation flights over the SEMAN facilities at Las Palmas AB, a Su-22U – identified with the serial FAP 016 – departed from the airfield and headed to El Pato AB in Talara. During landing, however, the aircraft brake system suffered a malfunction, which caused the main landing gear tyres to burst and resulted in minor damage to the landing gear. The aircraft was taken to the maintenance area of the base and, after intense labour by the men from EMA 116 led by Commander Tejeda, the problem was fixed in record time, allowing the aircraft to return to operations the next day. During the following weeks, this aircraft would be flown intensively bringing back to combat status the large number of former Su-22 pilots who had

arrived at El Pato volunteering to take part in the actions.

EA.211 – On the morning of 29 January, after receiving reports of slightly improved weather conditions over the operations area, the unit command organised an attack against PV Coangos to be carried out by two Hinds. Briefing and rearming of the aircraft was completed by 0915 hours, after which an attack formation comprising Mi-25D serial FAP 646 and Mi-25 serial FAP 653 immediately took off from Ciro Alegría, along with a pair of Mi-8Ts from Batallón de Asalto y Transporte 811 (811th Assault and Transport Battalion, BAT 811) from the Peruvian Army Aviation, with the serials EP 586 and EP 587. The aircraft flew towards their objective in a staggered formation and followed the course of the ravine formed by the Coangos River towards its source, approaching the objective following the indications of the Global Positioning System (GPS) system. Weather conditions along the route were poor, with the Condor mountain range's ever-present fog worsening en route, leading to the pilots losing sight of the other aircraft – which caused considerable stress to the crews. The formation, however, maintained its integrity and arrived in the vicinity of the objective without setbacks. When the attackers were approximately one minute and 15 seconds away from their objective, the leading aircraft,

Mi-8T serial EP 586 flown by Lieutenant Colonel EP Cantoni (call sign 'Felino'), performed a sharp turn to the left, plunging towards the target and firing his first rocket salvo, which fell short. After correcting his course, the pilot lifted the bow and opened fire again, this time hitting the target. Next it was the turn of Captain EP Garcia (call sign 'MacGyver'), flying Mi-8T serial EP 587, who, shouting over the radio 'MacGyver coming in hot', raised the bow of his helicopter and dived against the objective. With the view of PV Coangos filling the windshield, Garcia shouted: 'Get out Felino! Get out! I'm diving at it' (Cantoni's Mi-8T was still firing its rocket salvo against Coangos). At that moment, the leader, after releasing his last salvo of rockets, broke to the left, allowing the entry of Garcia, who emptied the entire contents of his four UB-32 rocket pods on the target. All hell broke loose over Coangos, with the explosions sending pieces of wood, corrugated aluminium roofing and prefabricated material flying through the air in front of the attacking pilots.



Peruvian Army troops at Ciro Alegría base. During the early stages of the conflict, EP forces engaging the Ecuadorian troops were composed not of professional soldiers but conscripts and volunteers from the border regions. These were later reinforced by seasoned troops from the counterinsurgency battalions who had years of experience fighting the terror war against communist guerrillas. (Ivan Izquierdo Elliot)



The Ecuadorian Army ordered four de Havilland Canada DHC-5 Buffalo aircraft in late 1979. Only a single aircraft, however, was delivered, and it was assigned to the Escuadrón de Transporte from Grupo Aéreo del Ejército 45. It is seen here taking off from Macas airport in late January 1995. (Jorge Delgado)

After the Eco-Papas finished their attack, it was turn for the 'Dragons' from EA.211 to enter the fray. Major Revilla (call sign 'Voraz'), followed the path of destruction left by the 'Hips' and unloaded his artillery against the Ecuadorian position, followed immediately by Major Chipoco (call sign 'Condor'). Once the final attack run was completed, the formation departed the area at full speed, heading towards the EP garrison at Mesones Muro, located in the Bagua district in Amazonas. While the formation was on its way, the crews heard over the radio that FAE aircraft had been dispatched from Gualaquiza and Macas to intercept them. Subsequently, the formation continued its retreat flying at treetop level, managing to arrive at Mesones Muro unmolested.

According to reports and interceptions of Ecuadorian communications, the attack on PV Coangos caused seven casualties in addition to substantial damage to the facilities and materiel. Despite the success of this raid, the crews of EA.211 deemed further attacks to



A CASA CN-235M-100 prepares to depart from Macas airport on 27 January 1995. Two units were ordered in 1989 and distributed between transport units of Grupo Aéreo del Ejército 44 and 45. (FAE via Santiago Rivas)



Another shot of Macas airport during the days of busy operations in February 1995. DHC-5 and IAI Arava tactical transport aircraft belonging to the transport squadron from Grupo Aéreo del Ejército 44 'Pastaza' are shown during supply operations at the airport. (FAE via Santiago Rivas)



An Mi-25 from EA.211 prepares to depart the dirt runway of the forward base of the EA.211. This forward base was soon overcrowded with the arrival of aircraft from different units, making it necessary to disperse the aircraft to other aerodromes and heliports in the vicinity, such as La Vista/Station 5 in Loreto, Shumba in Jaén and El Valor in Amazonas. (IEHAP)

be extremely risky as intelligence reports stated that Ecuadorian forces had deployed a large number of anti-aircraft weapons – in the form of 14.5mm ZPU-2 machine guns, 23mm ZSU-23 and 37mm AA guns, as well as a large number of SA-16 Igla, HN-5A and Blowpipe MANPADS – in the area. The report also detailed that these weapons had been arranged into three rings, which composed the air defence system for the Falso Coangos and Falso Tiwinza area, with the last of these comprising the MANPADS. The Ecuadorian plan was to deny the Peruvian forces the use of assault helicopters, making it impossible for them to repeat the success enjoyed during the Falso Paquisha conflict of 1981. The Ecuadorians relied on the massive use of MANPADS and anti-aircraft guns to increase their effectiveness and lethality in order to generate 'kill-zones', with special fire positions for Blowpipe and Igla MANPADS set up in trees located on the heights adjacent to Coangos and especially Falso Tiwinza, the main strongpoints of the Ecuadorian forces.

The second EA.211 mission for the day was launched at 1045 hours, when a pair of Mi-25s took off from the base of EA.211 along with two Mi-17 'Hips' from EA.341. The formation headed to PV Teniente Ortiz, located in the vicinity of Ampama, a 45-minute flight from the base. In stifling heat, the helicopters attacked their assigned target and came under fire from a MANPAD – which was evaded successfully – returning to base without damage.

The unit's third sortie of the day was launched at 1320 hours, when – after receiving reports of an attack launched by Ecuadorian forces against several EP patrols – the head of aerial forces in the operations theatre ordered the departure from the base of a close support package composed of a

pair of Mi-17s, a similar number of Mi-25s as well as a couple of Eco-Papa Mi-8Ts from Batallón de Asalto y Transporte 811. The assault helicopters were to fly to Falsa Base Norte and provide close support to 'Roosevelt' Patrol – an EP unit which had been under constant harassment from Ecuadorian troops since 26 January, with orders to then fly to PV Teniente EP Alberto Jiménez Banda carrying supplies. However, as the formation was approaching its objective, it was ambushed by a detachment of Ecuadorian forces equipped with MANPADS, which fired at the Peruvian aircraft from the sector known as Cota 1,298 (located 4km north-east of Falso Cueva de los Tayos; that is, inside Peruvian territory). At least six missiles were fired at the formation, which – despite the launch of flares by the Mi-25s – was hit. An Igla-1, fired by Lieutenant Hernán Cáceres, found its way into the mid-section of the Mi-8T 'Hip E' serial EP 587, which exploded in mid-air with the loss of all its crew: EP Captain Luís García Rojas (call sign 'MacGyver'), Lieutenant Augusto Gutiérrez Mendoza and Warrant Officers Victoriano Castillo Velarde, Rubén de la Cruz Huarcaya and Gustavo Begazo Gonzales. After taking evasive manoeuvres and using all the flares aboard, the pair of Mi-25s managed to escape the additional missiles fired at them, and the rest of the formation abandoned the area and returned to Ciro Alegría.

After the loss of EP587, the Peruvian armed forces joint command called off Mi-8T and Mi-17 combat operations due to their lack of passive and active self-defence capability. The absence of immediate air support was felt by the Peruvian ground forces progressing against the Falso Base Sur, delaying its capture until noon on 2 February.

EA.341 – A Mi-17 helicopter took off from Ciro Alegría with the objective of attacking Ecuadorian anti-aircraft artillery positions discovered in the vicinity of PV Teniente Ortiz and PV Etza. During the attack, the helicopter faced anti-aircraft gun as well as MANPADS fire, but managed to successfully evade their fire and returned to base unharmed.

EA.412 – Majors Papi and Briceño took off at 0600 hours to provide protection for a Su-22M on an electronic reconnaissance mission along the border, returning to El Pato AB at 0800 hours.



Officers from EA.341 form in front of a Mi-8T from this unit parked in front of the hardened concrete shelters of El Pato AB in Talara, where it landed during a liaison mission in late January 1995. (IEHAP)



Armourers from EA.211 rest next to one of the Mi-25 Hind-Ds from the unit after completing the rearming of its UB-32 rocket pods, leaving the aircraft ready for the next operation from Ciro Alegría, on 27 January 1995. (DINIA)

30 January FAP

EA.111 – The unit took delivery of a number of Vympel R-13M missiles flown from the weapon depots at Las Palmas AB to Talara aboard an An-32B from EA.843. These missiles were immediately inspected and readied for use by the personnel from Escuadrón de Misiles 306 (306th Missile Squadron).

EA.412 – Due to the need to increase the number of FAP combat aircraft in the theatre, DIDOP (Dirección de Operaciones, Operations Direction) ordered the ferrying of a Mirage 2000P, serial FAP 053 – which had just been returned to airworthiness by the maintenance personnel at La Joya AB – to Chiclayo. To carry out this operation, the Mirage 2000P serial FAP 195 flew from Chiclayo to La Joya AB with Major Abad at the controls and carrying Captain Chávez Cateriano in the rear seat. Upon arriving at their destination, the latter took command of FAP 053 and both aircraft began the transfer flight to Chiclayo. Despite being airworthy, FAP 053 was far from being 100 percent operational and much less air combat-worthy, as the aircraft lacked the inertial navigator system, did not have operational radar and had problems with the oxygen supply. To ensure the safe arrival of the aircraft and its pilot, navigation was carried out at low altitude and under the guidance of Major Abad aboard FAP 195. The arrival



Troops await the order to board this DHC-6 Twin Otter from Escuadrón de Transporte 1113, which was also known as the Escuadrón Twin Otter (Twin Otter Squadron), at Macas airport. (FAE via Santiago Rivas)



A ZU-23-2 anti-aircraft gun is unloaded from a truck which carried it to El Valor airfield in Bagua. Two of these weapons were deployed to provide aerial defence to the airfield. (Ivan Izquierdo Elliot)

of this aircraft at Chiclayo allowed the EA.412 detachment in the city to increase its strength to five airframes, as – despite its many shortcomings – the newly delivered aircraft kept its ground-attack capabilities intact, so its use was reserved for such missions.

31 January

FAP

GA No.11 – The radar units assigned to this group registered mechanical issues, which forced them out of operations for the next 72 hours.

EA.412 – Commander Mosca and Captain Chávez Cateriano performed an armed patrol over the northern border from 0015 to 0118 hours. This was followed by another armed patrol, flown by the same pilots, between 0430 hours and 0742 hours. During their second mission, the Mirage pilots mistakenly intercepted a Beech B-200 from the Aviación Naval de la Marina de Guerra

del Perú (Peruvian Navy Aviation) on a patrol mission over the sea in a friendly fire incident, but fortunately without causing any harm.

1 February

FAE

A Mi-8 belonging to Helipet-Ecuador – an Ecuadorian aviation company providing transport service to the oil prospecting companies located in the Amazon basin – flew from the Shell-Mera camp to Falso Tiwinza, located at an altitude of 1,061 metres, carrying 18 people as well as 6,000lb of supplies, food and ammunition. Approaching its destination, the pilot found bad weather and dense fog in the area, and as a consequence the landing was more difficult than expected, with one of the wheels sinking into the mud of the makeshift landing pad. That was not the only surprise, as one of the conscripts guarding the position opened fire on the Mi-8 in the belief that it was a Peruvian aircraft as the Ecuadorian military did not operate Russian helicopters. However, the friendly fire incident ended harmlessly as the conscript's FAL rifle jammed after the first round, preventing further – and potentially disastrous – damage from being caused: the bullet entered the cockpit through the lower right plexiglass, severed a few electrical circuits in the cockpit and disconnected the automatic pilot before making an exit hole in the cockpit roof. After a quick repair in situ, the aircraft returned to Shell-Mera station, where maintenance personnel proceeded to paint large Ecuadorian markings below and to the sides of the Mi-8 in order to avoid further such incidents.

FAP

EA.111 – By this date, the men from EM.116 had managed to bring a total of 18 Su-22 Fitter-Fs and six Su-22M Fitter-Js back into airworthy condition. This was an incredible feat achieved only after a massive effort launched by the maintenance personnel, who, following orders issued by the Air Group command, worked round the clock on successive shifts to recover as many aircraft as possible with the limited resources to hand.

EDA.118 – A detachment of the Escuadrón de Defensa Aérea 118, equipped with 9K32 Strela-2M MANPAD missiles, boarded an Antonov An-32 from the runway of GA No.7 in Piura and was taken to Ciro Alegria, where the unit spent the night. The following day, the group and their equipment boarded a Mi-17 which took them to PV-1, where they received their orders, relieving Captains Raúl Olivares and Javier Ramirez Guillén, who were the first to arrive in the area after the beginning of the conflict.

Shortly after their arrival at PV-1, the EDA.118 personnel were asked to replace their uniforms with those worn by Peruvian Army troops in order to avoid any friendly fire scenario, as the base was in close proximity to the battlefield and there was high tension in the area. Living conditions at PV-1 were precarious, with personnel stationed there having to spend the night on the wet grass or on the riverbanks, always under constant threat of attack from Ecuadorian Army positions at PV Cóndor Mirador or PV Coangos, since the EP command post – under Colonel Roberto Chiabra – was located in the nearby hills.

ER.331 – After being placed on alert as part of the activation of the northern frontier defence device, the Escuadrón de Reconocimiento 331 (331st Reconnaissance Squadron, ER.331) – a flight unit of the Servicio Aerofotográfico Nacional (National Aerial Photography Service, SAN) – equipped with two Gates Learjet 25B aircraft (registration FAP 522 and FAP 523) and two Learjet 36A (FAP 524 and FAP 525), received orders to deploy its elements to El Pato AB, Teniente Coronel Pedro Ruiz Gallo AB and Captain FAP Guillermo Concha Iberico AB in order to take part in diversionary operations along the border.

EA.514 – A detachment of six Embraer AT-27 Tucano aircraft from the Escuadrón de Combate e Instrucción Avanzada 514 (514th Combat/Advanced Instruction Squadron, EA.514) departed from Las Palmas AB at 0030 hours and headed north-east, landing at Andoas airport in the Loreto department at 0215 hours. The deployment of these aircraft to this runway was part of the plan to use Andoas as a



One of the Mirage F.1JA mock-ups, built to serve as decoys in case of Peruvian attack, at Taura AB in February 1995. (FAE via Santiago Rivas)



Ecuadorian Army troops boarding an IAI Arava bound for (the real) Cueva de los Tayos in Ecuador. (FAE via Santiago Rivas)

base to carry out night attack operations against Ecuadorian positions in the Cenepa River valley. EA.514 had extensive experience in the use of the AT-27 Tucano in night operations from interdiction missions against aircraft operated by drug trafficking in eastern Peru.

2 February FAP

EA.111 – Personnel from Escuadrón de Mantenimiento 116 completed the construction of aircraft mock-ups to serve as decoys, which were then placed around the base, with these being moved from one location to another on a daily basis in order to prevent positive identification by Ecuadorian spies. Meanwhile, daybreak



Shortly before the conflict, SEMAN had carried out maintenance work on the Embraer AT-27 Tucano fleet from Grupo Aéreo 51. These aircraft are pictured on the tarmac of Las Palmas AB in Lima in January 1995. (Rolando Cardenas)

found the pilots on alert and awaiting the scramble order seated under the wings of their Su-22 aircraft – which provided some shelter from the scorching sun of Talara – accompanied by mechanics and armourers. Upon the sounding of the alert siren, mechanics climbed into the aircraft, removed the safety locks and started the engines before transferring control of the aircraft to the pilots.



A Mi-17 from EA.341 parked at Ciro Alegría in a pause between missions. This was one of the aircraft purchased from Nicaragua in 1992 and was fitted with ASO-2V flare dispensers. (Ivan Izquierdo Elliot)



A Mi-17 from EA.341 approaches Ciro Alegría EP base after returning from another supply mission in support of Peruvian Army forces in the Cenepa River valley. A Mi-8T belonging to the Peruvian Army Aviation can be seen in the foreground. (José Barrera)



Pilots from EA.211 at Ciro Alegría. This forward airfield was the major operations centre for supply aircraft going to and returning from the Cenepa River valley. (Carlos Samamé Quiñones)

During the following days – and under orders issued by DIDOP in Lima directed at avoiding the concentration of aircraft in single locations – the EA.111 pilots ferried a total of 12 Su-22s – half of the number available for operations at the time – to Capitán FAP Renán Elías Olivera AB, home of GA No.9, in Pisco.

4 February FAP

EA.211 – The unit resumed operations on 4 February with a sortie launched against PV Coangos performed by a trio of Hinds flown by Major Revilla and Captains Colina and Carbajal. Their mission was to destroy the 120mm mortar positions located east of Coangos which were constantly pounding the EP forces located in the valley below. For this mission, each aircraft was armed with four UB-32 pods, containing a total of 128 C5K 57mm rockets. Arriving over the target after flying at nearly treetop height, the Mi-25s began their attack under a protective umbrella provided by a pair of Mirage 2000Ps from EA.412, managing to empty the entire contents of their rocket pods against the objective, silencing the mortar positions. The success of this attack led to an immediate FAE reaction, with a patrol of A-37Bs sent to chase down the Peruvian Hinds, albeit unsuccessfully.

ER.331 – The unit flew a diversionary mission, launching a Learjet which departed from El Pato AB at Talara at 0315 hours and headed north-west, returning to base at 0540 hours.

EA.412 – A pair of Dassault Mirage 2000Ps took off from El Pato AB in Talara at 0330 hours in order to provide an umbrella for the Hinds from EA.211 ordered to perform an attack on PV Coangos. After take off, the pair of deltas climbed to 25,000ft and then headed south towards San Ignacio, where they performed a left turn heading north-east towards the Cordillera del Cóndor. Upon arriving in the area of operations, the patrol established an alternate racetrack-like flight pattern, with one aircraft heading north while the other flew south, in order to maintain a greater illumination area for their radars. After half an hour on patrol, they established communication with the Mi-25s, which by that time had already successfully completed their mission. However, once the assignment was completed and while the

patrol was preparing to return to base, one of the aircraft – flown by Major Bohorquez – reported a sign of serious failure in the flight commands, with the consequent risk of flight capabilities being affected. It was decided not to return to the base by following the same flight path used to get to Coangos, but instead to cross the Ecuadorian territory in a direct line to El Pato AB in Talara. Several tense minutes passed as the pilots flew over Ecuadorian territory, waiting for their radar warning sensors to light up at any minute to the expected interception by the FAE. However, this did not materialise and the pair of Mirages arrived safely over Talara. As the instruments of Major Bohorquez's Mirage were malfunctioning, the formation leader, Major Papi, provided



By 1995, many Ecuadorean A-37Bs were repainted in a new, wrap-around camouflage pattern consisting of grey, green and olive drab, as shown here. Forward deployed at Macas airport during the conflict of 1995, fighter-bombers of the EC.2311 flew dozens of sorties against Peruvian Army forces in the Cenepa River valley. On 14 February 1995, the example reconstructed here, serial FAE 392 (which was repeated, in white, on the cover of the front undercarriage bay), was heavily damaged by a MANPAD fired by the Escuadrón de Defensa Aérea 708, while underway over what the Peruvians named the Falso Tiwinza. The pilot managed an emergency landing, and following repairs, this Dragonfly received the honorary title 'Twinitza', applied in black below the left side of the windshield. The inset shows the insignia of the EC.2311, which was applied on both sides of the rear fuselage of Ecuadorean A-37Bs. (Artwork by Tom Cooper)



Like the Peruvians, the Ecuadoreans were seriously concerned about a possibility of a wider conflict, and thus kept their Jaguar fleet in reserve – both during the wars of 1981 and 1995. Still, several were held on QRA at Taura AB, including this example, wearing the 'negative' version of the standardised camouflage pattern in dark sea grey (BS381C/638) and dark green (BS381C/641) on top surfaces and sides, and light admiral grey (BS381C/697) on undersurfaces. Notable is the Jaguar emblem applied on the left side of the nose. Principal armament consisted of pairs of British-made 1,000lbs (454kg) or French-made SAMP 400 BL70 bombs (400kg), installed in tandem under the centreline: as illustrated here, many of the latter were decorated with personal messages for Peru's President Fujimori. Furthermore, by 1995, all the 10 single-seaters were modified through the addition of over-wing launch rails for Matra R.550 Magic air-to-air missiles. (Artwork by Tom Cooper)



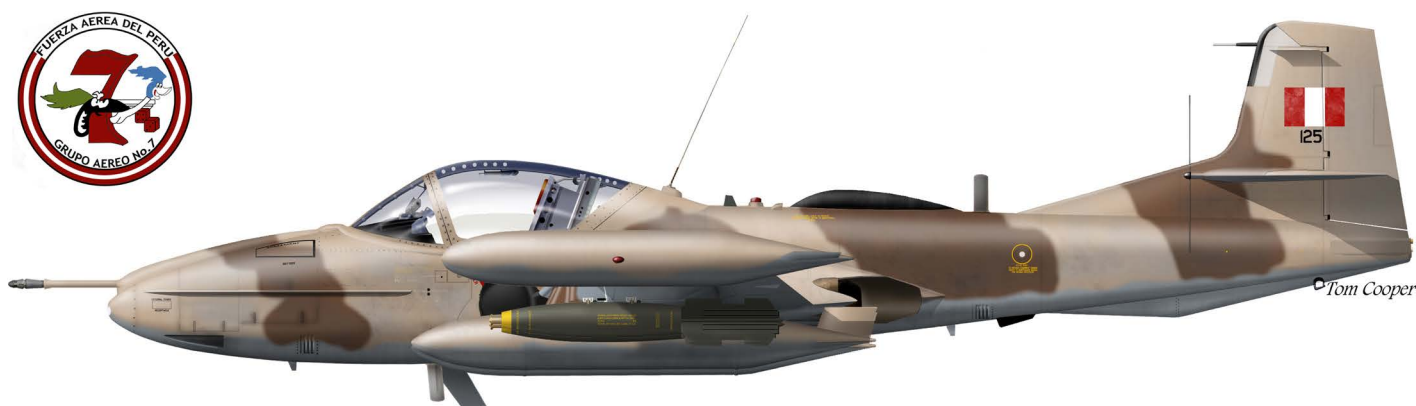
By 1995, the EC.2113 – the third squadron of the Ala de Combate 21 – had nine operational Kfir C.2 fighter-bombers, pairs of which were regularly forward deployed at Macas airport and flew combat air patrols over the war zone. All were camouflaged in light grey-green and dark green on upper surfaces and sides, and very light (almost white) on undersurfaces. Serials in the range FAE901–FAE909 were worn in black on the fin. Notably, the Ecuadoreans had only the relatively light, 'supersonic' drop tanks for their Kfirs, including examples equipped to serve as hardpoints for up to two 250kg bombs on underwing stations, and 1,300 litres for the centreline station. As can be seen from its kill marking (shown inset together with the unit insignia worn by most Ecuadorean Kfirs), this example was flown by Captain Mauricio Mata, leader of the Bronco Flight, on 10 February 1995, when he shot down a FAP A-37B using a single Shafrir Mk.II air-to-air missile (Mata's wingman flew the serial number FAE909). (Artwork by Tom Cooper)



The Mirage F.1JA serial number FAE 806 was the second of two jets from the Conejo flight that intercepted a pair of Peruvian Su-22s from EA.111 on 10 February 1995. It was piloted by Captain Uzcategui who was credited with one kill, and correspondingly decorated – in the form of a kill marking shown in the inset, together with the insignia of the Ala de Combate 21, and the EC.2112 (the other, bigger insignia applied on the nose several months after the war commemorated its participation in an exercise). Otherwise, the general appearance of the Ecuadorian Mirage F.1JAs as of 1995 was still the same as on delivery, even though their camouflage patterns in two shades of green on top surfaces and sides were severely worn out. Standard armament still consisted of wing-tip mounted Matra R.550 Magic Mk.2s. (Artwork by Tom Cooper)



As in 1981, in 1995 the FAP pressed into service four Learjets of the National Aerophotographic Service. While most retained their overall white livery with blue streaks and cheat-lines, and three-digit black serials on the fin, the Learjet 36A serial number 524/OB-1431 was the only one to receive a camouflage pattern in mid stone (BS381C/362) and either dark brown (BS381C/411) or the French colour brun noisette on top surfaces and sides, and PRU blue on undersides. Notably, all the jets received extra housings for cameras, low on their fuselages: 522 (which flew the Mirage-2000-mimicking diversion on 5 February 1995, in the direction of Macará) below the wing, while 524 had its housing below the forward fuselage. The latter jet was involved in numerous diversion sorties launched from Capitán FAP Guillermo Concha Iberico AB, outside Piura. (Artworks by Goran Sudar)



As of 1995, surviving A-37Bs of the FAP still wore their standardised camouflage pattern in sand (FS30277) and field drab (FS30118) on top surfaces and sides, and light gull gray (FS36275) on undersurfaces, but this was usually heavily worn out. Primarily armed with Mk.82 bombs with Mk.12 Snakeye retarding fins, or unguided rockets, they bore the brunt of combat operations against Ecuadorean ground forces, even if ill-suited to do so in areas dominated by FAE interceptors. On 10 February 1995, the A-37B serial number FAP 125 was one of four of Kiko Flight, which launched from Piura AB to strike Ecuadorean positions around PV Coangos and what the Peruvians called the Falso Tiwinza. While piloted by Captain Gegorio Mendiola and Commander Hilario 'Fiera' Valladares, it was intercepted by a pair of Kfirs and shot down by a single Shafir Mk.II. The crew ejected safely and were recovered. (Artwork by Tom Cooper)



The fleet of Mi-8Ts and Mi-17s of the 811 Assault and Transport Battalion of Peruvian Army Aviation (insignia shown inset) saw intensive service during the war in 1995: they hauled troops, supplies and light artillery pieces into the combat zone, flew air strikes, and evacuated the injured and enemy prisoners of war, and repeatedly attacked Ecuadorean ground troops. Camouflaged in badly worn out dark green on upper surfaces and sides, and light blue-grey on undersides, Mi-8s of the Peruvian Army proved harder to find than FAP jets wearing desert camouflage patterns. The Mi-8T shown here was flown by Captain Luís 'MacGyver' García Rojas on 29 January, when shot down by one of at least six MANPADs fired by Ecuadorean troops deployed at Cota 1298 (four kilometres north-east of what the Peruvians called the Falso Cueva de los Tayos). The pilot and his crew – including Lieutenant Augusto Gutiérrez Mendoza, and Warrant Officers Castillo Velarde, Rubén de la Cruz Huarcaya, and Gustavo Begazo Gonzales, were killed. (Artwork by Tom Cooper)



The FAP pressed its own Mi-8Ts and Mi-171Vs of the EH.341 (part of Grupo Aéreo 3) into action too, and they flew supply and close air support operations as intensively as helicopters of the Army Aviation, despite their rather inadequate camouflage patterns consisting of mid stone (BS381C/362) and dark brown (BS381C/450) on upper surfaces and sides. As in 1981, they were usually armed with UB-16-57 pods for 57mm S-5K unguided rockets. However, Mi-17s also frequently deployed their nose-mounted machine guns in action. The intensity of their involvement can be gauged from the number of Ecuadorean claims: up to two Mi-8Ts of the Army, and two Mi-8/17s of the FAP were reported as shot down. (Artwork by Tom Cooper)



Experiences from the war of 1981 prompted the FAP to acquire Mi-25 helicopter gunships, and these more than proved their worth during the war of 1995. All examples wore the camouflage pattern shown here, consisting of light stone (BS381C/361) and dark brown (FS30059) on top surfaces and sides, and light blue on undersides. No roundels seem to have been applied on the sides, but they do appear to have been applied on top surfaces of the winglets, the hardpoints under which were usually used to carry gun-pods and UB-32-57 rocket pods. The Mi-25 serial number FAP 646 (construction number 04251), illustrated here, was the Number 2 in the Chalan Flight on 7 February 1995. While being flown in a close air support sortie, it was hit by a MANPAD, resulting in its downing and the loss of the entire crew, including Commander Schenone, Lieutenant Raúl Vera Collahuazo and Warrant Officer Eric Díaz Cabrel. (Artwork by Tom Cooper)

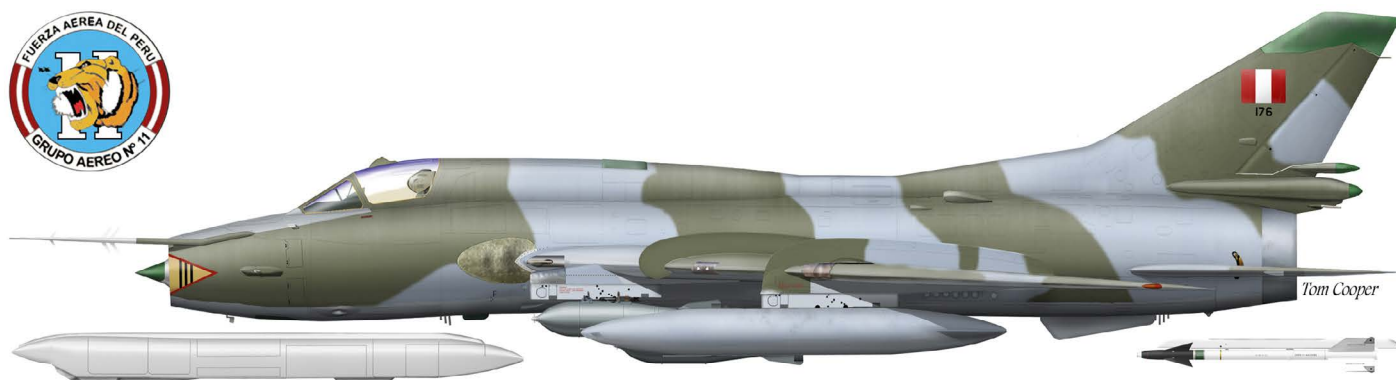


Badly hampered by political decisions and economic constraints, the small fleet of Mirage 2000P interceptors of EA.412, FAP, had just a handful of Matra R.550 Magic Mk.II air-to-air missiles on hand as of 1995. Operating from Talara and Chiclayo, EA.412 did its best to provide top cover for other aircraft and helicopters involved in CAS. On several occasions, their pilots acquired Ecuadorean aircraft with their radars, but lacking Super 530 medium-range air-to-air missiles, they were too far away to engage. All Peruvian 2000Ps were painted as illustrated here, in sand and dark brown on upper surfaces and sides, and light blue-grey on undersurfaces.

Black serials were applied on the fin, the upper side of the starboard wing and the lower side of the port wing. Standard configuration consisted of one centreline drop tank, a pair of R.550s and two 30mm DEFA guns. (Artwork by Tom Cooper)



EA.111 of the FAP was quick in deploying a detachment of its Su-22s to the Teniente Coronel FAP Pedro Ruiz Gallo AB, outside Chiclayo, to fly airstrikes on Ecuadorean ground troops in the valley of the Cenepa River. As of 1995, these were still painted in Afrika Mustard (FS30266) and field drab (FS30118) on upper surfaces and sides (applied in patterns that differed from aircraft to aircraft), and light gull gray (FS36375) on undersurfaces. On 10 February 1995, the example illustrated here – serial number 014 – failed to return from a mission to hit Ecuadorean ground troops in the Cenepa River valley: its pilot, Commander 'Rayo' Maldonado, was killed, as was his wingman, Major 'Poeta' Caballero. During that sortie, the jet was armed as illustrated here, with four OFAB-250-270 bombs: it might also have worn the insignia of the EA.111 (shown inset) under the cockpit. Insets show the insignia of the GA.11, EC.111, and the fashion in which combat sorties were commemorated on Su-22 serial number FAP 003. (Artwork by Tom Cooper)



Returned to fully mission capable condition by the hard work of the maintenance personnel of GA.11, Su-22M serial number FAP 176 was rushed into combat operations while wearing an entirely new camouflage pattern consisting of medium sea grey (BS381C/637) and olive drab (BS381C/298) on upper surfaces and sides, and light admiral grey (BS381C/697) on undersurfaces.

By the time, the urgency was sufficient for the aircraft to carry out numerous missions, including several reconnaissance sorties, carrying the KKR-1 pod (shown inset, lower left corner), but foremost close air support, usually armed with four OFAB-250-270 bombs. Advanced R-13M air-to-air missiles (ASCC/NATO reporting name AA-2D Atoll), shown in the lower right corner, were available for self-defence purposes as of 1995, but none was fired in combat. (Artwork by Tom Cooper)



With China agreeing to be paid in raw materials, in late 1991, Peru acquired a total of six China National Technology Import and Export Corporation (CATIC) Harbin Y-12IIs. Largely based on the de Havilland DHC-6 Twin Otter, but with significant changes in the design of the fuselage, and equipped with state of the art navigation systems, the aircraft were pressed into service with the ET.421, home-based in Iquitos. Although operating relatively close to the combat zone, all retained their white-overall livery, with a black 'anti-glare panel' in front of the cockpit, a blue cheat line down the fuselage, and sides of the engine nacelles in blue, during the war of 1995. (Artwork by Goran Sudar)



As of 1995, the FAP Canberra fleet was 35 years old and worn out, and only 70 percent of aircraft were still operational on average. Moreover, they lacked any kind of radar warning receivers and chaff and flare dispensers, or navigational equipment necessary to take part in a modern war. Nevertheless, on 6 February 1995, the EA.921 launched four Canberras – including the B(I)Mk.68 illustrated here, serial number 257, and flown by Captains Philips and Alegre, and three ex-South African B(I).Mk 12s – into an air strike on the Ecuadorean post at Coangos. Unfortunately, FAP 257 failed to return to Pisco and was declared missing along with its crew. (Artwork by Tom Cooper)



Appreciating the combination of range and payload, the FAP took care to reinforce its fleet of Canberras through acquiring five B(I).Mk 12s from South Africa: the aircraft were transferred from Waterkloof AB to Las Palmas AB between 18 December 1991 and 1 January 1992. They had slightly better navigation systems, modern radar warning receivers and chaff and flare dispensers than any of the 'legacy' Canberras still in FAP service, but the Peruvians lacked the money to upgrade them even further – for example through the addition of guided bombs, or for electronic warfare. Thus, the 'South Africans' – as they became known in FAP service – had to soldier on in their usual role, and saw little action. The serial number 204 is known to have been one of three 'South Africans' to participate in the only two missions launched by EA.921 against the Ecuadorean positions in the Cenepa River valley. (Artwork by Tom Cooper)



AT-33 Bu/No 58-0568 of the FAE seen during its maiden flight following overhaul and upgrade at Sabreliner Aviation: once in service, all AT-33s were assigned to Escuadrón de Combate 2312 'Tiburones' (Sharks) stationed at Eloy Alfaro AB in Manta. (FAE)



The FAE fleet of Mirage F.1JAs lost four aircraft – including a two-seat conversion trainer – in accidents between 1980 and 1988, reducing its size to 14 aircraft. (Photo by Jorge Delgado)



The crew of the A-37B FAE 395, assigned to the Destacamento Macas, awaiting the scramble order next to their aircraft, armed with a pair of LAU-3 launchers with aerodynamic covers. (FAE)



The wingless fuselage of Cessna A-37B serial FAE 392 seen at Macas airport before being ferried by air back to Eloy Alfaro AB in Manta for repairs. (FAE)



Profile view of an EA 411 Su-22M "Fitter-J" parked on the ramp of Mariano Melgar/La Joya AB in Arequipa in the late 1980s. (Author's Collection)



Armourers, technicians and maintenance personnel from Grupo Aéreo N.11 seen in front of the blast pens at Teniente Coronel FAP Pedro Ruiz Gallo AB in Chiclayo during a halt in operations on February 7, 1995. (Darwin Gamarra)



EA.514 flew counterinsurgency and counter-narcotic operations from the early 1990s, mostly by night and with help of GPS and NVGs, thus obtaining extensive experience in nocturnal operations. Shortly after being called to arms against Ecuador in 1995, the undersides of its Tucanos were oversprayed in black. (Author's Collection)



A rare aerial shot of a Mi-25U, serial FAP 699, flying over the clouds during a training flight in the mid-1980s. Note the characteristic 'shark mouth' insignia applied on all Mi-25s of EA.211 had not yet been applied. (FAP)



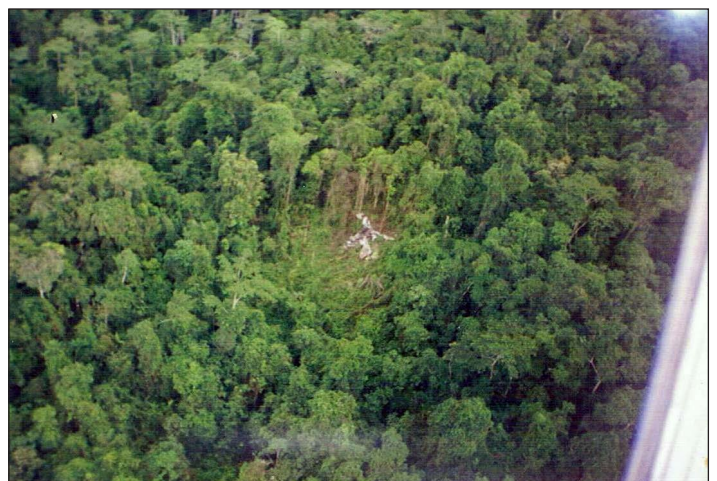
An An-32B from ET.843 unloading ammunition at El Valor airfield, outside Bagua. Notably, the aircraft was outfitted with four BDU-34 bomb racks low under the fuselage, in anticipation of flying similar bombing sorties as in 1981 – and finally flown by a single An-32 and three A-37Bs – on 11 February 1995. (Ivan Izquierdo Elliot)



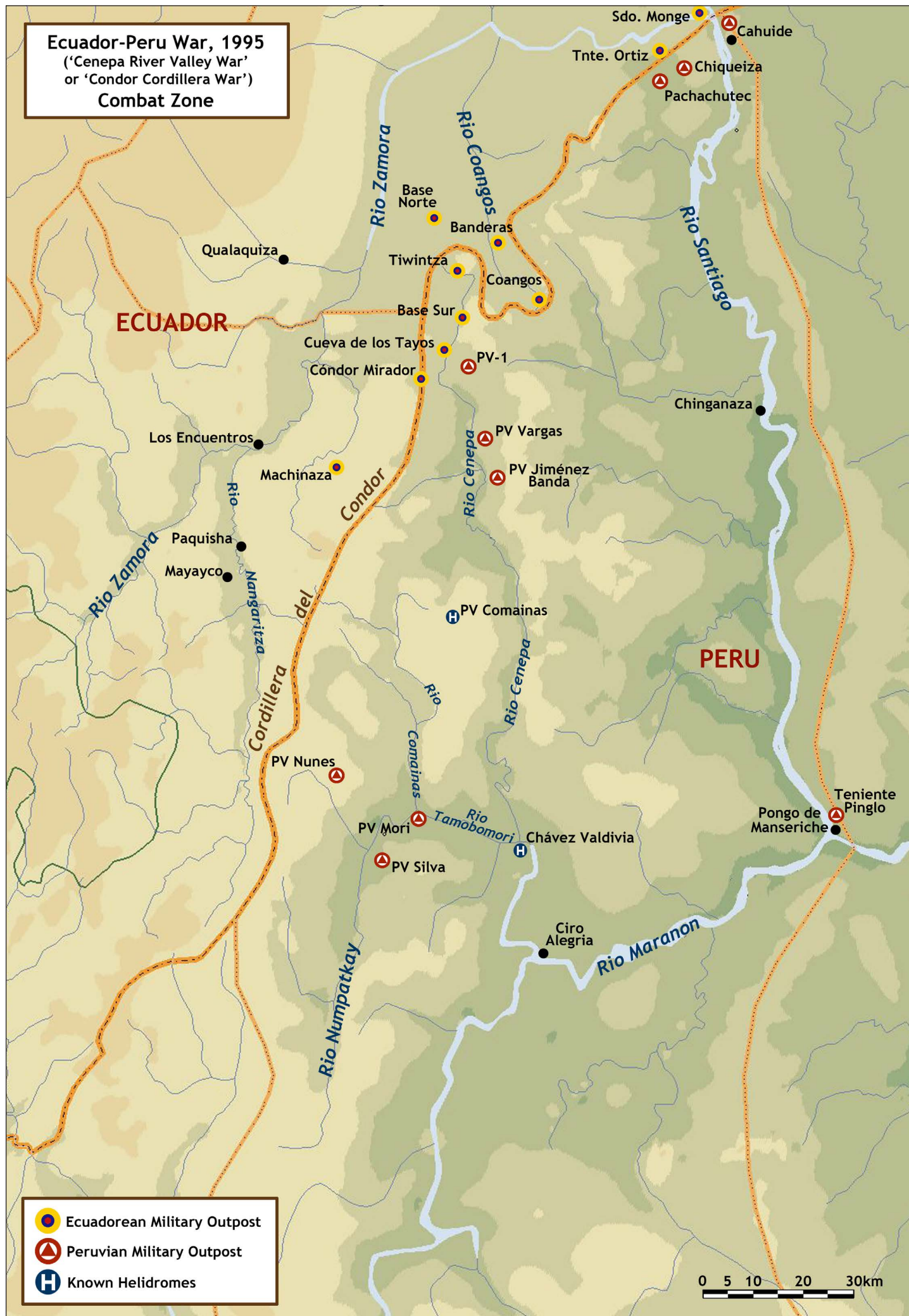
Mi-17 helicopter from EA.341 seen on landing at Ciro Alegria base, after completing a supply mission to PV-1, in late January 1995. (Ivan Izquierdo Elliot)



A thermal camera image of the Su-22 flown by Commander Caballero. The aircraft was mostly complete despite crashing against the thick jungle, speaking volumes about the sturdiness of the Su-22s' structure. (FAP)



Another shot of the crash site of the Su-22 FAP 014, flown by Commander Caballero during the ill-fated mission of 10 February 1995, in its final resting place in the Cenepe River valley. (FAP via Jorge Merino)





This Learjet 36B, carrying the serial FAP 524 and seen here on the tarmac of El Pato AB in Talara, was one of the aircraft deployed to the operations theatre to take part in reconnaissance as well as diversion sorties. Upon arrival at Talara, the aircraft quickly received a new coat of camouflage paint, making it probably the only camouflaged Learjet in the world. (Roberto Medina)

him with visual aids during landing, which was performed without incident.

EA.514 – At 0226 hours, a formation of four AT-27 Tucano aircraft took off from Andoas on a mission to attack C ndor Mirador, the main Ecuadorian Army supply centre in the Cenepa River valley as well as the fire position for a battery of truck-mounted BM-21 122mm multiple rocket launchers. Flying the aircraft from this formation were Major Asin (call sign ‘Chamaco’) and 2nd Lieutenant Gonzales (leading aircraft); Lieutenant Shaeffer and Major Pulgar; Captain Guzm n and Lieutenant Matos; and Captain Tueros and Alf. (2nd Lieutenant) Baraybar. Each of the Tucanos was armed with four M1A1 cluster bombs, containing six M41 20lb fragmentation bombs, whose fuses were programmed to detonate 40m above the target in order to increase the damage radius.

The aircraft flew to the area of operations in complete radio silence, finding an electrical storm that was raging along the Condor mountain range. Navigation under these extreme conditions was only possible thanks to the use of aids such as GPS and night vision goggles, which allowed the formation to fly between the creeks during its approach to the target, successfully completing its attack. Once the mission was completed, the Tucano formation headed towards Iquitos, with the aircraft landing at the runway of GA No.42 after a flight of two-and-a-half hours over the rugged Amazon jungle.

EA.921 – At 0930 hours, a Cessna T-41 Mescalero landed at the runway of Capit n Ren n El as Olivera AB in Pisco carrying a set of orders issued by DIDOP. The messenger, Colonel FAP Jos  Osterling V squez, brought a set of coordinates for the saturation bombing of the Ecuadorian Army forces stationed at Falso Tiwinza, a mission to be carried out at dawn next day by four Canberras of the unit.

At 1900 hours, crews began the planning of the missions while the base ground personnel completed the fine-tuning of the aircraft assigned to the operation. The Canberra bombers available were made



Pilots from Escuadr n de Combate 2312 ‘Tiburones’ prepare for a sortie from Eloy Alfaro AB in Manta in early January 1995. By the end of the month, a detachment from this unit was carrying out operations over the conflict area, flying from Macas airport. (FAE via Santiago Rivas)

up of three B(I)Mk.12s, complemented by a single B(I)Mk.68. While the former aircraft had been upgraded with up-to-date navigation and electronic countermeasures equipment like radar warning receivers and chaff and flare dispensers, the latter lacked any kind of improvements and was pretty much a ‘stock’ bomber from the 1950s. The crews assigned to the mission were as listed in Table 3.

Table 3: FAP EA.921 Canberra mission to Tiwinza, 5 February 1995

| Aircraft Type | FAP Serial | Crews |
|--------------------|------------|--|
| Canberra B(I)Mk.12 | FAP 202 | Major ‘Cherokee’ Zerpa, Captain ‘Dardo’ S nchez |
| Canberra B(I)Mk.68 | FAP 257 | Captain ‘Mordaz’ Ram rez, Major ‘Loro’ Ugarelli |
| Canberra B(I)Mk.12 | FAP 203 | Captain ‘Cachorro’ Casta eda, Captain ‘Revolver’ Alegre |
| Canberra B(I)Mk.12 | FAP 204 | Major ‘Fanto’ Castellares, Captain ‘Duro’ Velarde |

5 February**FAE**

EC.2311 – Six Cessna A-37Bs were deployed from Eloy Alfaro AB in Manta to Macas airport, located 20 minutes' flight time from the operations area, with the mission to provide close support for Ecuadorian Army operations in the Cenepa valley.

EC.2312 – This unit was also ordered to deploy aircraft to Macas airport, with four Lockheed AT-33s departing from Eloy Alfaro AB in Manta that morning to join what would be known as Destacamento Macas as close support aircraft for Ecuadorian forces in the Cenepa valley.

FAP

EA.331 – A Learjet 36B, serial FAP 524, flew a diversion sortie taking off from Piura at 2220 hours, heading to San Ignacio before returning to base at 2356 hours.

Meanwhile, at Chiclayo, Major Juan Carlos Weston (call sign 'Alfil'), head of the EA.331 detachment at Teniente Coronel Pedro Ruiz Gallo AB, received verbal orders from Colonel José Ríos Santa Cruz, GA No.6 commander, to perform a mission over Ecuadorian territory as a distraction manoeuvre for the BAC Canberras from EA.921 which were programmed to launch a carpet-bombing raid over the Ecuadorian PV Coangos during the early hours of 6 February. This highly risky and secretive mission could only count on support from the early warning radar station at Talara to inform the Learjet crew about any potential enemy movement in the area.

EA.412 – At 0315 hrs, a pair of Mirage 2000Ps from this unit departed from Chiclayo and headed towards the operations area, where they established a CAP patrol over the Cenepa River valley, returning to base at 0630 hours. A few hours later, a single Mirage 2000P provided escort to the aircraft flying President Alberto Fujimori from El Pato AB to Bagua airport.

EA.712 – At 0245 hours, the 'Kiko' flight, composed of four Cessna A-37Bs each armed with four Mk.82 bombs under the command of Major Hoyos, took off from the runway of Captain FAP Guillermo Concha Iberico AB in Piura on a mission to attack Falso Tiwinza. The crews made use of night vision goggles (NVG) and GPS navigation equipment to reach and attack the objective, with the aircraft returning to Piura without incident.

EA.921 – Scramble hour for the Canberras arrived at 0130 hours. For this mission, each aircraft was armed with its maximum payload, consisting of six 453kg (1,000lb) Mk.117 bombs, all carried internally. After take off, the formation, identified as 'Peón Guía + 3' (Peon leader + 3), climbed to 35,000ft and followed the Lima-Trujillo-Chiclayo route, after which they turned east towards the area of operations in strict radio silence. Each aircraft had been supplied with enough fuel to reach its objective and return to Pisco, despite meteorological reports indicating the presence of adverse conditions over the target area.

Arriving at the Condor mountain range, the formation flew in through poor weather, continuing to fly between 35,000 and 39,000ft, following the GPS aboard. While 60 miles from the objective, the formation began its descent to 8,000ft above the target (14,000ft on the altimeter). Six miles from their target, the crews started the weapon safety removal procedures in anticipation of their respective bomb runs, arriving over Tiwinza a few minutes after 0300 hours, with the four aircraft proceeding to release their deadly cargo over the positions marked by the GPS. As the bombs left the bomb bays, the crew members felt how their aircraft – freed from the weight of the armament – immediately gained altitude, and the formation began their exit from the operations zone with a marked turn and – at full power – initiated a steep climb to 35,000ft heading towards Pisco, landing on the runway of Capitán FAP Renán Elías Olivera

AB a few minutes before 0400 hours to greetings of joy from their unit comrades.

6 February**FAE**

EC.2112 and EC.2113 – A mixed formation composed of a pair each of IAI Kfir C.2s and Dassault Mirage F.1JAs took off from Taura AB at 0300 hours, heading for the Condor mountain range to perform a CAP. They arrived over the operations area at 0330 hours, encountering poor weather conditions with developing thunderstorms, a large amount of cumulus cloud and rain. Following the directions of the air defence radar and while closing to the objective, one of the Mirage pilots detected a pair of echoes on his radar at about 10 nautical miles, heading towards them on an interception course.

The F.1JAs started a 180-degree interception, establishing a radar lock on, but FAE pilots did not know if the Peruvian Mirage 2000P could be armed with BVR missiles (which could out-range their heat-seeking MATRA R.550 Magic 2s), enabling them to fire first. Indeed, as soon as they locked on, there was a response from FAP fighters, in the form of a radar lock on from 12 o'clock, and then – to their surprise – from 9 and 6 o'clock. At that moment, the Ecuadorians found themselves in a precarious situation and – with the threat on their RWR – they were forced to launch chaff and break hard in attempt to disrupt enemy radars. This proved insufficient, then the Mirage 2000Ps acquired them again. Finding no other solution, all four Ecuadorean pilots entered a 60-degree dive, flying something like a 'Split S', towards the ground, before rolling out and heading north-west at best speed. It was a risky manoeuvre by night and under the given weather conditions, but one that enabled them to return to Taura safely.

FAP

EA.331 – Following the secret directives issued the previous evening, the Learjet 25B serial FAP 522, flown by Major Juan Carlos Weston as pilot, with Major Pedro Baltuano as co-pilot and Warrant Officers Maximo Morales and Carlos Santa Maria as crew, took off from Chiclayo at 2330 hours on 5 February, heading north-east towards Macará, inside Ecuador. Circling over its designated operation area between 0100 and 0247 hours, the aircraft began manoeuvres that involved flying at high speed and different flight levels and in different orbits in order to simulate Mirage 2000 offensive air manoeuvres and distract the attention of the Ecuadorian defence system. After completing the mission, the aircraft landed at the FAP Base in Chiclayo at 0415hrs.

EA.412 – The unit launched three CAP sorties from Teniente Coronel Pedro Ruiz Gallo AB in Chiclayo – each comprising two aircraft armed with two MATRA R.550 Magic 2 missiles and complete ammunition for their DEFA 30mm cannons – in support of EA.712 and EA.921 aircraft operating over the Cenepa valley. During the first sortie, and while flying over the Condor mountain range at approximately 0325 hours, a pair of Mirage 2000Ps made radar contact with four unidentified aircraft across the border, and interception was authorised. Heading towards their targets at full speed, the Mirages managed to gain a favourable position over a pair of FAE aircraft, which resorted to the launch of chaff and flares as well as to taking aggressive evasive action, managing to get off the FAP Mirage's radar screens. After this first contact with enemy aircraft, the EA.412 aircraft returned to Chiclayo.

EA.712 – This unit had intense activity during the day, launching a total of three sorties from Piura directed against a number of Ecuadorian targets located in the operations area. The first departure was recorded at 0930 hours with five Cessnas led by Major Gamboa,



Captain Percy Phillips in front of a BAC Canberra B(I)Mk 12 in Pisco in January 1995. He and his bomb aimer, Captain Alegre, were declared 'Missing in Action' after their aircraft failed to return after attacking Falso Tiwinza in the early hours of 6 February 1995. (IEHAP)

which attacked Falso Tiwinza and Base Sur. The second mission took place at 1815 hours, involving four aircraft led by Commander Chávez which headed to Cueva de los Tayos, each armed with four Mk.82 bombs, returning at 2000 hours. EA.712's last sortie of the day was launched at 2340 hours with the departure of three A-37Bs – each armed with four Mk.82s – under the command of Lieutenant Contreras, on a mission to bomb Ecuadorian positions in Cónдор Mirador, which were successfully attacked with the aid of GPS and NVG equipment.

EA.921 – A few hours after successfully completing its first combat mission, the EA.921 command received a new assignment from DIDOP, which requested a bombardment to be carried out over Ecuadorian positions at PV Coangos. The scramble was scheduled for the early hours of 6 February and the crews assigned to this mission are listed in Table 4.

The operation began at 0320 hours, with the four aircraft armed in the same weapons configuration as the previous day. The mission was carried out in complete radio silence but navigation was slightly modified, with the aircraft flying north to Chimbote, 500km north of Lima, and then turning east in order to avoid the poor weather conditions found on the way to the target the previous night. The formation arrived over the target an hour later and ground observers reported that the attack successfully hit their assigned objectives.

Table 4: FAP EA.921 Canberra mission to Coangos, 6 February 1995

| Aircraft Type | FAP Serial | Crews |
|--------------------|------------|---|
| Canberra B(I)Mk.12 | FAP 202 | Major 'Canalla' Cano, Major 'Dogo' Donayre |
| Canberra B(I)Mk.68 | FAP 257 | Captain 'Pirata' Philips, Captain 'Revolver' Alegre |
| Canberra B(I)Mk.12 | FAP 203 | Captain 'Hierro' Pérez, Captain 'Duro' Velarde |
| Canberra B(I)Mk.12 | FAP 204 | Captain 'Corcel' Cisneros, Captain 'Chalan' Robels |

However, the situation then took a turn for the worse for the unit, as only the Canberras with serials FAP 202, FAP 203 and FAP 204 managed to return to Pisco, prompting DIDOP to immediately make contact with the airports at Piura, Chiclayo, Trujillo and Lima – which had been designated as alternate runways – in an attempt to obtain information about the whereabouts of FAP 257, but with negative results. With no reports on the whereabouts of the Canberra flown by Captain Phillips and Captain Alegre, and once the fuel depletion threshold passed, DIDOP proceeded to declare the aircraft and its crew as MIA. A number of theories regarding the loss of FAP 257 surfaced almost immediately: some Peruvians suggested that the aircraft was hit by anti-

aircraft fire during its bomb run, crashing during the return to base (which was unlikely due to the altitude of the bomb run), while Ecuadorian sources claimed that a FAE fighter had managed to penetrate Peruvian airspace and hunted the bomber, shooting it down in a sector between the area of operations and Bagua. The mystery will only be solved when the remains of the aircraft – and its unfortunate crew – are finally found.

7 February

FAE

EC.2311 – Lieutenant Colonel Briones – flying with Lieutenant Jerry Vera as co-pilot – leader of the 'Miura' flight carrying out a CAP mission over PV Cónдор Mirador, received a SAM alert from his number 2 and, shortly afterwards, his Cessna A-37B Dragonfly aircraft was hit by an Iglá-1 fired by a MANPAD operator from EDA.118 which exploded near the starboard engine exhaust. Fortunately for the Dragonfly's crew, the Cessna remained airworthy and was able to make its return to Macas. On the ground, maintenance personnel found that the damage was minimal and – after repairs – the aircraft returned to operations the following day.

FAP

EA.111 – The command of this unit ordered the transfer of four armourers from EA.106, together with support equipment, FAB-250 bombs, fuses and 30mm ammunition, to Teniente Coronel Pedro Ruiz Gallo AB in Chiclayo in order to provide support to a detachment of Su-22 aircraft to be deployed to the base early in the morning to launch missions against Ecuadorian positions in the Cenepa River valley. At 0615 hours, four Su-22 Fitter-Fs – identified with serials FAP 003 FAP 011, FAP 014 and FAP 017 and flown by Commander Fernando Ordoñez (call sign 'Petro'), Major Carlos Ramirez (call sign 'Judas'), Commander Victor Maldonado Begazo (call sign 'Rayo') and Major Enrique Caballero Orrego (call sign 'Poeta') – appeared in the skies over Chiclayo and were received after landing by personnel from Escuadrón de Mantenimiento 116, as well as the four armourers, who immediately began work on the aircraft. Instructions were received to load the aircraft with four FAB-250-270 250kg bombs, while in



One of the Embraer AT-27s from Escuadrón de Combate e Instrucción Avanzada 514 seen parked on an improvised dispersal area at Andoas airfield, shortly after arrival at this location to take part in the actions over the Cenepa River valley on 4 February 1995. (Nico Asin)



Pilots from Escuadrón de Combate e Instrucción Avanzada 514 pictured at the forward base at Andoas, in Loreto, from where the unit launched an attack against Ecuadorian positions in the Cenepa River valley on the night of 4-5 February 1995. (Nico Asin)

the meantime, as the crews finished their planning, ground crews performed the aircraft's pre-flight checks.

Around 0900 hours, the pilots ran to their aircraft and, to the shouts of "scramble, scramble!"; mechanics and armourers rushed to their assigned aircraft, started the engines and removed the armament safety locks. Five minutes later, four Su-22s – and their escort of four Mirage 2000Ps – took off and, after climbing to 30,000ft, flew towards their objective. Arriving over the operations area, the 'Mariachis' – the codename given to the escorting Mirages – began patrolling the area in a racetrack pattern, providing the umbrella for the operation. In the meantime, the Fitters had reached their objectives, dropping four tons of bombs over Falso Tiwinza without incident and returning to Chiclayo at 1030 hours. Once back in Chiclayo, the Fitters were rearmed by ground personnel in the same weapons configuration in preparation for a new sortie, which was launched at 1300 hours and achieved identical results. With the successful completion of these first two sorties, GA No.11 experienced its first combat operations

of the campaign, an event that caused great excitement among the EA.111 personnel stationed at GA No.6.

In the meantime, at 1130 hours, the unit also launched a pair of Su-22Ms, flown by Majors Javier Ramirez and Juan Castro and each armed with four Vypel R-13M missiles, with orders to fly CAP for the elements of EA.211 ordered to attack the PV Coangos as well as Ecuadorian forces at Falso Tiwinza.

EA.211 – On 7 February, DIDOP ordered an attack to be launched against Ecuadorian positions around PV Coangos and Falso Tiwinza due to the urgent need to provide aerial support for EP forces engaged in combat in these sectors. An operations plan was designed and, at 1352 hours, five Mi-25s took off from Ciro Alegria. The plan ordered the formation to split in two, with one section attacking Falso Tiwinza, while the other flew towards PV Coangos. The aircraft – identified with the serials FAP 646, FAP 650, FAP 653, FAP 693 and FAP 695 – carried 128 C5K-0 rockets each and flew in formation all the way to the mouth of the Chinganzaza River, where they parted ways.

The first formation, led by Major Paredes (call sign 'Lirón') and Lieutenant Pinto and identified with the codename 'Lirón + 1', reached its target at 1400 hours and launched its attack immediately, firing

their rockets in an upward sweep in two salvos, with a 5-second interval between them. Ecuadorian forces reacted swiftly, and a pair of heat-seeking missiles fired by MANPADS located nearby were soon hurtling towards the intruders, which were forced to deploy flares and take evasive actions, managing to dodge the missiles. In the ensuing chaos – and amid the terrible weather conditions reigning over the area – the attackers became separated and retreated following different paths, losing sight of each other for approximately 10 minutes until Commander Paredes was able to spot his wingman flying at treetop level over the mountains.

Meanwhile, the second attack package, led by Commander Cesar Sebastiani (call sign 'Chalan') and composed of the Hinds flown by Commander Marco Schenone Oliva and Major Eduardo Maravi under the codename 'Chalan +2', flew at low level towards PV Coangos, following the indications provided by the Garmin 100 GPS installed on the aircraft, arriving at their target at 1430 hours. 'Chalan' began the attack, firing his first rocket salvo, the signal for 'Chalan

2' and 'Chalan 3' to do the same. After completing his first rocket barrage, the formation leader adjusted his aim according to the plan of operations, opening fire again moments after, followed by his wingmen. Geography and careful defensive planning, however, favoured the Ecuadorians, and the attackers would pay a high price for their actions. As the 'Chalan +2' formation began its second rocket barrage, up to five Igla-1 heat-seeking missiles appeared in the skies – fired by MANPAD operators positioned in the hills dominating the approach route to PV Coangos. A pair of these missiles hit the fuselage of the Mi-24D flown by Commander Schenone (call sign 'Sombra'), identified with the serial FAP 646 – 'Chalan 2' in the formation – which exploded and fell in flames into the jungle, killing Schenone and his unfortunate crew, which comprised Lieutenant Raúl Vera Collahuazo (co-pilot/ weapons operator) and Warrant Officer Erick Díaz Cabrel. In the meantime, the other Hind crews, after witnessing the horrific scene, far from abandoning the area, continued to carry out their attack, depleting their rocket pods before taking evasive action as they fired the entire flare contents from their ASO-2V dispensers. The remains of Schenone and his crew would only be found and recovered on 19 May 1995, more than three months after the action.

EA.331 – A Learjet 36A, serial FAP 524, took off at 0330 hours from Teniente Coronel Pedro Ruiz Gallo AB in Chiclayo heading towards the Guayaquil Gulf on a diversion flight, returning to base at 0930 hours.

EA.412 – A pair of Mirage 2000Ps, commanded by Major Rodolfo García Esquerre and Commander Walter Vojvodic, took off from Chiclayo at 0630 hours to carry out a ground support mission to help EP troops attacking Falso Tiwinza, dropping a total of eight Mk.82 bombs, after which they returned to base.

EA.712 – The unit launched two sorties in support of the EP forces progressing against the positions occupied by the Ecuadorian Army. At 1700 hours, 'Kiko' patrol, composed of six A-37Bs flown by Major Hoyos/Lieutenant Consiglieri, Lieutenant Contreras/Lieutenant



From left to right: Captain Arturo Carbajal, 2nd Lieutenant Julio Cesar Gutiérrez, Major José Revilla, 2nd Lieutenant Angel Ordaya and Major Juan Carlos Velásquez receive last-minute instructions from Colonel Jorge Bustamante Zavala, head of operations at Ciro Alegría, before another combat sortie in February 1995. (Ivan Izquierdo)



Commander Carlos Samamé Quiñones smiles for the camera next to this Mi-25 Hind D from EA.211 after returning to Ciro Alegría army base from another combat sortie over the Cenepa River valley in February 1995. (Carlos Samamé Quiñones)

Rodriguez, Commander Calle/Lieutenant Vasquez, Major Gamboa/Lieutenant Juan Tryon and Lieutenant Javier Tryon/Lieutenant Cossio – each armed with four 250lb bombs – carried out an attack on Falso Tiwinza, dropping 3 tons of bombs on this position. Meanwhile, at 0415 hours, 'Gallo' patrol, comprising four A-37Bs flown by Major Marco Chávez/Commander Gomez/Lieutenant Solari, Lieutenant RedHed/Captain Mendiola, Major Gracey/Lieutenant Plascencia and Commander Valladares/Lieutenant Cangahuala, performed an attack on PV Cóndor Mirador, seeking to neutralise the BM-21 batteries that were harassing the Peruvian Army forces from that position.



Commander Quiñones and Captain Revilla at Ciro Alegría shortly after returning from a combat sortie over the Cenepa River valley on the morning of 7 February 1995. (Carlos Samamé Quiñones)



Aircrews from EA.211 and the Peruvian Army's BAT 811 enjoying some moments of peace in between sorties at Ciro Alegría on the morning of 7 February 1995. This is the last known picture of Commander Marco Schenone (kneeling with dish in his hand), who was shot down aboard Mi-24 serial FAP 646 and killed along with his crew over PV Coangos later that evening. (Carlos Samamé Quiñones)



Aerial view of El Valor airfield, near Bagua. Nearly all ammunition, food and equipment required by the Peruvian forces engaged in the combat along the Cenepa River valley was sent to this airfield and from there to Ciro Alegría, from where it reached all the EP vigilance posts on the border. (Ivan Izquierdo Elliot)

8 February

FAE

EC.2311 – a pair of A-37Bs, each armed with two LAU-131s and a pair of Mk.82 bombs, took off from Macas airport on a mission to attack EP positions north of PV-1, as well as at Falso Cueva de los Tayos and Falso Base Sur, which had been recently occupied by EP troops.

FAP

EA.111 – At 0900 hours, the squadron detachment at Chiclayo launched its four Su-22 Fitter-Fs, which took off on a mission to attack Ecuadorian positions located in the vicinity of Falso Tiwinza. The aircraft, loaded with a total of four OFAB 250-270 bombs, hit their targets

without encountering opposition, returning to Chiclayo an hour later. An identical mission was launched at 1330 hours and flown using the same entry and exit pattern, obtaining similarly favourable results. By this time, spirits of the flight and ground crews were high – thanks to the results obtained in previous operations – with armourers beginning to write messages alluding to the enemy forces on the bombs. Some operations planning officials, however, were not happy with the way mission planning was being conducted at Lima, and criticism began to be raised regarding the use of the same flight pattern and operations hours day after day; there were concerns that this could eventually be used to the advantage of the FAE. These voices, however, were ignored by the political leadership.

At the flight line in Chiclayo, personnel from EM 116 completed work on a number of problems with radio and GPS systems on the Su-22 aircraft assigned to the detachment, after which they remained on alert. Meanwhile, at Talara, the refresher training process continued for the large number of former Su-22 pilots who had arrived at GA No.11 in order to take part in the operations.

EA.331 – The unit launched a total of three diversionary flights with the aircraft stationed at Chiclayo and Talara, with no incidents recorded.

EA.412 – The squadron launched a total of three sorties directed at providing umbrella cover for operations by EA.111 and EA.712 aircraft assigned to attack ground targets along the Cenepa River valley.

EA.712 – Three A-37Bs from carried out an attack sortie against Ecuadorian positions in the Tiwinza River ravine. The aircraft, under the codename 'Gallo', dropped a total of 12 Mk.82 bombs over Ecuadorian targets, returning to Captain FAP Carlos Concha Iberico AB unmolested.

9 February

FAE

EC.2312 – A pair of AT-33s of the Destacamento Macas performed an early-morning armed patrol over the disputed area, returning to Macas airport at 0930 hours.

FAP

After the failure of peace negotiations between the two countries, hostilities resumed with the FAP appearing over the operations area *en masse*.

EA.111 – This unit launched two sorties against Falso Tiwinza again with four Su-22s, which departed at the same hour and carried the



The 3rd Class W.O. Erick Díaz Cabrel poses for the camera in front of the Mi-25 serial FAP 646 at Ciro Alegría. This Hind D, acquired from Nicaragua in 1993, would be shot down between Base Sur and PV Coangos on 7 February 1995. (IEHAP)



Personnel from Escuadrón de Mantenimiento 706 (706th Maintenance Squadron) servicing a Cessna A-37B from EA.712 at the maintenance hangars of Capitán Guillermo Concha Iberico AB in Piura during late January 1995. (IEHAP)

same weapon configuration as previous days. The formation followed the same flight pattern as the previous two days and reported favourable results after the attacks.

EA.412 – A trio of Mirage 2000Ps armed in close support configuration with four Mk.82 bombs each flew from Chiclayo to attack positions in



A seasoned veteran from the 1981 conflict, Commander Raúl Calle, smiles for the camera standing in front of one of the Cessna A-37Bs from EA.712. The aircraft is armed with a pair of Mk.82 Snakeye bombs as well as Matra Type 155 rocket launcher with 18 SNEB 68mm rockets. (Raúl Calle)

Falso Tiwinza and the Cenepa River valley heights occupied by Ecuadorian forces. Meanwhile, a pair of Mirage 2000Ps armed in CAP configuration flew a patrol over the Macará–Zumba–Soldado Mori area, establishing a ‘racetrack pattern’ over the Cenepa River valley and providing escort to these operations during the day.

EA.712 – The unit launched three daytime attack missions against Ecuadorian positions at Falso Tiwinza and Cóndor Mirador, flying from Capitán FAP Carlos Concha Iberico AB in Piura. Each sortie was flown by a pair of Cessna A-37Bs armed with the standard payload of four Mk.82 bombs and carrying four supplementary fuel tanks.

10 February FAE

At 1238 hours, the ‘Halcón’ radar station, part of the CAS-1 early warning system, detected the presence of Peruvian aircraft approaching the area of operations, immediately communicating this to COMAC (Comando Aéreo de Combate, Combat Air Command), which issued a ‘scramble’ order to the units on alert.

EC.2112 – Meanwhile, at Manta, *Conejo* (Rabbit) flight, comprising the Mirage F.1JAs serials FAE807 and FAE806 flown by Major Raúl Banderas

and Captain Carlos Uzcátegui, respectively, was on the tarmac of the base awaiting orders from 1230 hours, which finally arrived at



On 7 February 1995, EA.712 launched night attack operations against Ecuadorian troops in Falso Tiwinza and artillery positions around Cóndor Mirador, which were successfully completed with the aid of GPS navigation equipment as well as night vision goggles. (Raúl Calle)



A series of images showing the operations inside the maintenance hangars of GA No.11 at El Pato AB in Talara. (José Gabriel Bustamante)



The recovery efforts carried out by the maintenance personnel of GA No.11 proved fruitful, and by early February the unit had a total of 24 Su-22 fighter-bombers in operational condition. This line of Su-22s parked on the tarmac of El Pato AB shows some of those units shortly before entering into operations. (José Gabriel Bustamante)

1247 hours when the squadron received authorisation from the Air Defense to proceed with the *Acero* (Iron) mission. Within a few minutes, the Mirages climbed to an altitude of 30,000ft, heading to the area of operations over the Condor mountain range. When the aircraft approached the operations area of Farol – the Ecuadorean air defence – their radars detected the presence of a pair of ‘bogeys’ on a 175 degrees heading and 170 miles away. Approximately four minutes before reaching the orbit point to carry out their assigned CAP, Farol issued the following command: “Conejo flight, descend to 20,000ft, intercept and shoot down under your responsibility.” Following the instructions issued by the Air Defense, the flight continued their mission, heading 140 degrees and then turning to 170 degrees. Farol, however, lost radar contact with the targets and the Conejo flight leader decided to return to the orbit point.

Without visual contact, Major Banderas took the decision to head to Tiwinza (Falso Tiwinza to the Peruvians) and, 6 miles from this location, made visual contact with two aircraft at 11 o’clock from their position, ordering his wingman, Captain Uzcátegui, to engage his afterburner while providing directions so he could also obtain visual contact. Due to the distance from the aircraft, positive identification was difficult and Banderas did not rule out that these aircraft were the Kfirs from Bronco flight. Radio contact was established with the aircraft from EC.2113 as they continued their approach behind the



EA.111 was not only lacking aircraft at this time. Years of low operability rates left the unit undermanned, and the 1995 conflict brought on the urgency to retrain former Su-22 pilots who had the will to fight but whose touch had become rusty. Captain Lambruschini gives this pilot the classic 'graduates kick' after he had successfully completed his refreshment programme. (IEHAP)



Ground personnel from EC.2312 service this AT-33's Allison J33-A-35 jet engine during maintenance at Eloy Alfaro AB in Manta. (FAE via Santiago Rivas)



A Lockheed Sabreliner AT-33 from EC.2312 banks away from the camera over the typical landscape of the Manabi province in Ecuador, home of Eloy Alfaro AB in Manta. (FAE via Santiago Rivas)

unidentified aircraft, without obtaining any response.

Facing this situation, at 1258 hours, Major Banderas accelerated to Mach 0.95 and, while 4 miles away from the mystery aircraft, he heard the tone of the missile audio signal indicating a 'lock' and ready to fire status. Seconds later, by now 2 miles away, Banderas ordered his wingman to launch chaff to evade a missile threat at the same time as he distinguished the characteristic severed noses of a pair of Su-22 aircraft painted in two-tone desert scheme and equipped with large fuel tanks. Then, while approximately 1½ miles from the first aircraft, Major Banderas, slightly raising the nose of his aircraft, pushed the firing button to release a MATRA R.550 Magic 2 missile, which hit the Su-22 flying to the right and approximately 800 metres behind the leading aircraft. This Magic 2 was immediately followed by another one fired by Captain Uzcátegui, directed at the leading Fitter, which hit this aircraft right in the exhaust nozzle and damaged its Tumansky R-29-300 engine, causing a trail of black smoke. At that moment, Major Banderas fired a second R.550 which hit the Su-22 amidships, causing a large explosion; almost simultaneously, Captain Uzcátegui also fired a second missile at his target but he did not observe any explosion. However, Uzcátegui did see the Fitter, engulfed in flames, enter into a stall at the time that its pilot managed to escape by activating his KS-4 ejection seat. Meanwhile, the leading Fitter, severely damaged and in a marked descent after taking a pair of hits from AA missiles, was last seen abandoning the area, leaving behind a trail of smoke. It was by then 1305 hours.

After these actions, the Conejo flight – with their RWR sensors lit up like Christmas trees – headed north at full speed, descending to treetop level to avoid the signal of the



EC.2312 aircraft at Eloy Alfaro AB in Manta. While a number of this unit's aircraft were deployed to Macas airport in order to launch armed patrols over the border as well as close support missions over the Cenepa River valley, the remaining airframes were kept at the base on alert. (FAE via Santiago Rivas)



Another view of the AT-33s from EC.2312 on the dispersal area of Eloy Alfaro AB in Manta. (FAE via Santiago Rivas)

Mirage 2000P radars and managing to evade interception. Once they cleared the area of operations, the F-1JAs climbed to 20,000ft to cross the inter-Andean region, returning to Manta AB without further incident.

EC.2113 – A pair of Kfir C.2 fighter-bombers – identified under the codename *Bronco* – took off from Taura after receiving the scramble order issued by COMAC. This formation was composed of Captains Mauricio Mata and Guido Moya aboard IAI Kfir C.2s with the serials FAE905 and FAE909, each armed with a pair of Shafrir Mk.II missiles. After arriving at the area of operations at 30,000ft, the patrol descended to 5,000ft above the mountain range. At 1325 hours, a failure in communications between the *Bronco* and *Conejo* flights led Captain Mata to believe that the Mirages were under attack, so he decided to go and provide some help. While on the way, however, the *Bronco* flight discovered the characteristic sand and brown silhouettes of a pair of EA.712 A-37Bs, which were heading to attack Ecuadorian forces in the vicinity of Falso Tiwinza. After visual identification, the flight leader got a lock on one of the Dragonflies and fired a single Shafrir missile, which exploded near the tail section of the Cessna, which broke off from the impact. The other A-37B, meanwhile, managed to evade the attack from Captain Goyo by taking evasive action and, flying at treetop level, disappeared into the everlasting mist in the valleys below.

EC.2312 – A pair of AT-33s, part of the unit's detachment at Macas airport, performed a patrol over the operations area from 1030 hours, returning to base by 1130 hours.

FAP

EA.111 – Maintenance personnel corrected a series of reports in the squadron's Su-22's communication and GPS systems, with the aircraft declared ready for operations at 0500 hours, being immediately armed with four OFAB-250-270 250kg bombs and complete ammunition for the 30mm guns.³ A few minutes before dawn, orders arrived from DIDOP for a new attack against Falso Tiwinza, which was to follow exactly the same entry and exit pattern as on previous days, an order that raised criticism among some officials. At 0600 hours, the aircraft were armed. Their crews – Commander Maldonado (call sign 'Rayo' Guide + 1) flying aboard Su-22M2 serial FAP 017, with Major Caballero (call sign 'Poeta') as wingman flying aboard FAP 014 (composing the first patrol); Major Ramirez (call sign 'Judas' G + 1) flying aboard FAP 003, with Major Artadi (call sign 'Mono') flying aboard FAP 159 as his wingman,

were briefed at 0700 hours, with the formation receiving the order to scramble at 0900 hours. However –and for unknown reasons – the scramble was delayed for an hour and a half, with the aircraft finally departing at 1030 hours.

At 1305 hours, and aware by radio chatter of the loss of the Su-22s flown by Commander Maldonado and Major Caballero, the second patrol, composed by the Su-22 serials FAP 003 and FAP 159 flown by 'Judas' and 'Mono' headed back to Chiclayo, landing at 1330 hours with their bombs still hanging from their racks followed, shortly after, by the pair of Mirage 2000Ps from the first CAP patrol and, 30 minutes later, by the last two Mirage 2000Ps.

Back in Chiclayo, crews and ground personnel of the base scanned the skies with the hope of sighting the two missing Sukhois on the horizon; some said that they heard that the planes had landed in Talara, while other rumours indicated that they were in Iquitos. At the base, a solemn silence took over the dining room, where only the sound of the cutlery was heard. Suddenly, someone shouted "*Viva el Perú! Viva la Fuerza Aérea!*" (Long live Peru! Long live the Air Force!), with all present shouting until exhaustion in reply "*Viva...!*" It was truly an emotional moment for the staff who had lost two brothers in arms.

This incident put an end to EA.111 operations over the conflict area, as DIDOP immediately called off further involvement of the



A Kfir C.2 from Escuadrón de Combate 2113 rests between missions inside its hardened shelter at Taura AB near Guayaquil. (FAP via Santiago Rivas)



Commander Enrique Antonio Caballero Orrego was one of the Fitter pilots from EA.111 lost during the attack against Falso Tiwinza on 10 February 1995. Despite contradicting versions, Commander Caballero's whereabouts are not known to date. (FAP via José Barrera)

unit. While the detachment elements remained alert in Chiclayo, it saw no additional action, with crews and aircraft returning to El Pato AB a few weeks later. On the ground, search missions for the missing crews were immediately launched, but nothing was found.

It would not be until the afternoon of 21 February that an EP patrol discovered the almost intact remains of Su-22 serial FAP 014 resting among the treetops of the forest. According to preliminary official reports by the FAP, the aircraft had suffered damage to the lower engine section – which would disprove Ecuadorian claims that it was shot down by air-to-air missiles – and it had flown for several miles before landing – nearly intact – in the forest. FAP authorities considered that the pilot had survived the ejection but was lost in the thickness of

the jungle. After removing the black box, a pair of rescue teams departed the area with orders to find the pilot's whereabouts, as they continued to receive radio signals from Major Caballero but were unable to determine his exact location. Rescue efforts, unfortunately, proved fruitless and Major Caballero's whereabouts remain unknown at the time of writing.

The whereabouts of the remaining Su-22 pilot finally became known on 26 February when the remains of Commander Victor Manuel

Maldonado Begazo – who flew Su-22 serial FAP 017 – were found near the border by a Peruvian Army patrol. According to the investigation, Commander Maldonado had sustained injuries during his descent and survived for several days in the jungle, eventually succumbing to sepsis caused by lack of medical aid. He received the posthumous promotion to colonel.

During the conflict, the Su-22s of EA.111 carried out 40 attack missions, completing 61 hours of actual combat and dropping more than 80 tons of bombs.

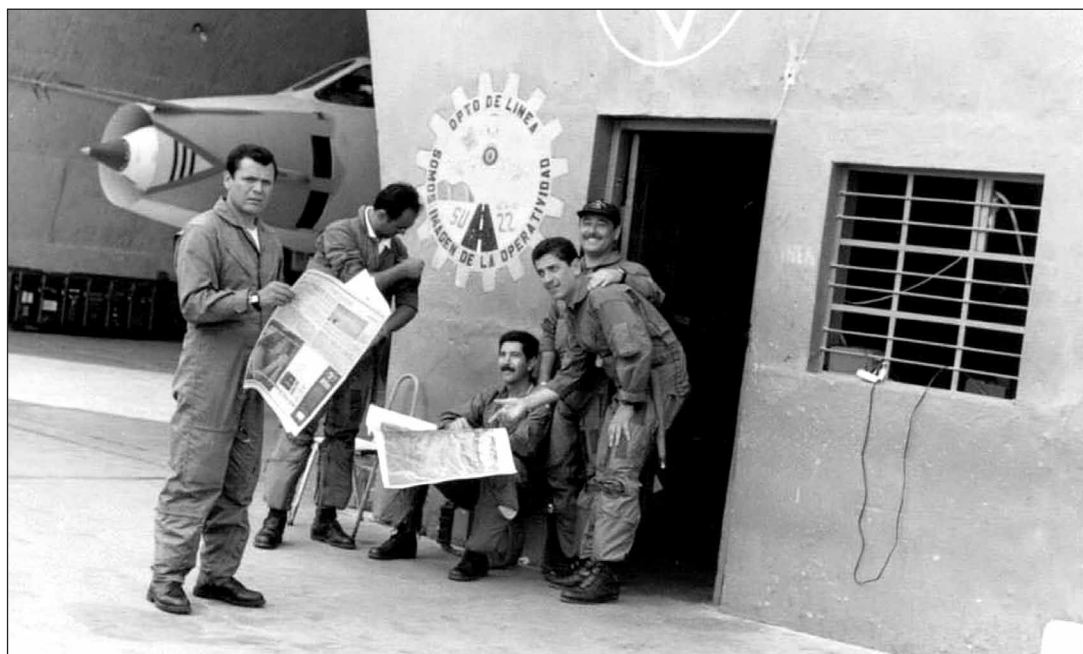
EA.331 – Escuadrón de Reconocimiento 331 launched three sorties on this day, two of them being diversion flights flown at 0830 hours and 1230 hours. The last sortie of the day was a reconnaissance over the Cenepa valley, launched at 1340 hours, to search for the remains of the two Su-22 fighter-bombers lost during the evening, with the aircraft returning to Piura at 1544 hours.

EA.412 – The unit took part in four sorties during the day, three of these being CAP missions in support of the attacks performed by the Su-22s from EA.111 and Cessna A-37Bs from EA.712. During the last of these, the Mariachis realised the threat to their comrades too late and were forbidden to pursue the echoes on their radar screens across the border line in order not to provoke an all-out war with Ecuador. These political decisions led to considerable criticism and frustration among FAP pilots, and especially EA.412 officers who had been taking part in operations, which was more noticeable after the events of that evening. The final sortie flown by EA.412 on this day was an escort mission flown by a pair of Mirages which took off from Chiclayo in support of a Gates Learjet 25 from EA.331, the operational unit from the Servicio Aerofotográfico Nacional, flying a photo-reconnaissance mission over the Cenepa River valley at an average height of 30,000ft, with all aircraft returning to Chiclayo at 1545 hours.

EA.712 – Four Cessna A-37Bs using the codename 'Kiko' flight, each armed with four Mk.82 500lb bombs, took off from Captain FAP Carlos Concha Iberico AB in Piura at 1200 hours to attack Ecuadorian positions around PV Coangos and at Falso Tiwinza. At 1320 hours, after attacking their primary target, a section of 'Kiko' flight – composed of the Cessnas serial FAP 125, flown by Captain Gregorio Mendiola with Commander Hilario Valladares (call sign 'Fiera') as co-pilot, and FAP 118, flown by Major Raúl Hoyos (call sign 'Tarugo') with Lieutenant Ricardo Guerra (call sign 'Jedi') as co-pilot – headed towards Falso Tiwinza in order to attack Ecuadorian positions in the surrounding area when the patrol was spotted by two Kfirs, which immediately manoeuvred to get into a favourable firing position. Finding themselves outmatched by the Kfirs' speed and altitude, the Cessna pilots dropped their loads and proceeded to break formation.



President Alberto Fujimori in front of one of the hardened shelters of El Pato AB in Talara, surrounded by officers from EA.111, in this image taken during early February 1995. From left to right (standing): Major Richard Garcia (call sign 'Orate'), Commander Federico Escalante ('Dracula'), Captain Manuel Galdos ('Camilo'), Major Arnaldo Desulovich ('Culebra'), President Alberto Fujimori, Lieutenant General Enrique Astete, Captain José Bustamante ('Durango'), Commander Ricardo Carrillo ('Láser'), Major Benjamin Rueckner ('Picudo'), Commander Luis Muller ('Panzer'), Captain Rolando Cueva ('Fósforo'), Commander Edmundo Caceres ('Cacique'), Captain Luis Vargas ('Motelo'), Commander Ricardo Lumbreras ('Tacatata'), Commander Víctor Maldonado ('Rayo'), Captain Cesar Pareja ('Ácido'), Major Alfonso Artadi ('Mono'), Captain Carlos Ramírez ('Nano'), Commander Edison Díaz ('Vikingo'), Major Enrique Caballero ('Poeta') and Captain Moises Barack ('Misil'). (Moises Barack)



Officers from EA.111 relax by reading newspapers in between sorties at El Pato AB in Talara. From left to right: Captain Edison Díaz, Commander Alfonso Artadi, Major Hernan Valdivia, Major Richard Garcia and Captain Rolando Cueva. (José Barrera)

Nevertheless, within seconds the FAE fighters had gained a position within firing range of their air-to-air missiles. At that moment, the leading Kfir fired a RAFAEL Shafrir Mk.II missile, which struck the A-37B piloted by Captain Gregorio Mendiola, damaging the engine and tail section. With their aircraft hit and out of control, Mendiola and Valladares resorted to using their ejection seats to abandon the Cessna, which was by then falling out of control. In the meantime, Major Hoyos – aboard the other Cessna – was busily trying to avoid becoming the next victim of the Kfirs and, in a risky manoeuvre, took his aircraft to its limits and – by flying low close to the ground – followed the valleys below at



One of the Su-22Ms brought back into airworthy condition by the men from EM 706 on display at El Pato AB in 1995. Note that the aircraft, with the serial FAP 176, wore a non-standard paint finish – applied with whatever paint was available – and was armed with a pair of Vympel R-13M air-to-air missiles and two UM-32 rocket pods. (José Gabriel Bustamante)



A Cessna A-37B from EC.2311 flies low over the typical terrain found on the Ecuadorian side of the Condor mountain range. (FAE via Santiago Rivas)



By contrast, the Peruvian sector of the Condor mountain range consisted of high slopes that turned distances of just a few kilometres into week-long marches for Peruvian troops. (Carlos Samamé Quiñones)

minimum altitude, making his way out of danger and arriving, almost without fuel, at Andoas at 1425 hours.

Meanwhile, after ejecting from their aircraft, Captain Mendiola and Commander Valladares became separated. Falling in the middle of the thick jungle, after establishing his position, Captain Mendiola began making his way towards PV-1, the nearest Peruvian outpost, arriving there with clearly visible signs of hypothermia around 0145 hours, escorted by an EP major. Meanwhile, Commander Valladares' parachute took him into the ravine formed by the Cenepa River, which he followed down its course hoping to run into an EP patrol. At dusk, as the officer was resting on a massive rock by the side of the river, he was forced to throw himself into the water due to a sudden increase of the flow caused by the intermittent rains in the area. Exhausted, with the arrival of morning the pilot waited on the riverbank, where he was spotted by a patrol of soldiers of the Ashaninka ethnic group, who, after identifying him as a friend, transferred him to PV-1, where his flight partner, Captain Mendiola, was waiting. Both pilots were transferred to Captain Carlos Concha Iberico AB at Piura during that evening, where they were received with honours.

EDA.708 – After the capture of the Falso Tiwinza helipad (Cota 1,061) by EP troops, the FAE went on the offensive, increasing its activity by launching numerous attack missions against the Peruvian positions. In order to defend the recently taken position as well as its heliport, which was now in operation, the deployment of a pair of Strelistas (MANPAD operators) was ordered to Falso Tiwinza, located at an elevation of 1,335 metres. In compliance with these orders, two MANPAD operators took off from PV-1 aboard an Army Aviation Mi-8T. Minutes before arriving at their destination, the pilot spotted a pair of Ecuadorian Cessna A-37Bs descending to attack the Hip. However, the young but experienced pilot took his aircraft in a steep descent to just 10 metres above the waters of the Cenepa River, thereby managing to outwit his attackers. Because the area was still 'hot', the operators and their equipment disembarked on the river bank, separated from Falso Tiwinza by an eight-hour uphill walk through the dense jungle.



The crew of this Cessna A-37B from EC.2311 prepare to depart from Macas airport to carry out a close support sortie against Peruvian Army forces in the Cenepa River valley in February 1995. (FAE via Santiago Rivas)

11 February

FAE

EC.2311 – ‘Piolin’ flight, a pair of A-37Bs each armed with two LAU-131s and a pair of Mk.82 bombs, took off from Macas AB on a mission to attack EP forces at Falso Cueva de los Tayos and Falso Base Sur, which had been recently occupied by the Peruvians, an attack that preceded a bombardment with a 120mm mortar and multiple BM-21 rockets carried out the next day from PV Cóndor Mirador. The BM-21 rocket systems – bought from Nicaragua in 1993 – had arrived at this position on 28 January thanks to the construction of a penetration road opened by a battalion of engineers from the EA.

Approaching Falso Tiwinza at a height of 300m over the Tiwinza River valley, Captain Rodrigo Rojas – flying aboard Cessna A-37B serial FAE392 and carrying Lieutenant Manolo Camacho as co-pilot – spotted the white trail of smoke left by a MANPAD fired by the Peruvian forces, and immediately began manoeuvring in order to avoid it. However, due to its superior speed, the KBM Kolomna 9K32 Strela-2 missile quickly caught up with the subsonic Cessna and – a few seconds later – exploded near its starboard rear section. In the cockpit, after recovering from the initial shock, both crew members noticed the emergency lights on the instrument panel and heard the sound alarms indicating problems with fuel loss, hydraulic pressure, loss of flaps and other navigation systems. The aircraft, however,

remained airworthy and Captain Rojas managed to regain control, thereafter deciding to return to base, where the EC.2311’s Amazonas Detachment was stationed.

The explosion of the missile’s warhead had shattered the flap section of the starboard wing, affecting the aircraft’s weight and aerodynamics, making it difficult for the pilot to maintain control. Captain Rojas tried to increase his control by reducing speed, but as a result the left wing got heavier and more difficult to recover, so he resorted to increasing the power and transferring fuel from the left wing-tanks in order to compensate for the weight difference, which allowed him to regain control of the aircraft.

Arriving over Macas, the crew started preparation for landing without taking their eyes off the distance-measuring equipment. With flaps out of operation, the pilot had to put the aircraft into a long descent at a very low angle. Finally, with 5 miles to go, the pilot managed to align his aircraft with the runway, landing at the head of the runway – which gave him the base’s full 2.5km length to come to a stop. However, the aircraft was 15 knots over the landing speed at the time it touched down, which caused it to continue off the end of the runway, and the crew – fearing a potential explosion – jumped from the Cessna as it became stuck in the muddy ground.⁴

Once in Macas, the base ground personnel inspected the damage caused by the missile impact; due to the extent of the damage, it was decided to dismantle the aircraft so it could be ferried to Manta AB aboard a Lockheed C-130B from Escuadrón de Transporte 1111. At Manta AB, FAE392 underwent repair and was put back into flying condition within a few days, by which time it had been christened as ‘Tiwinza’.

FAP

EDA.708 – At 0800 hours, the MANPAD operators from the downed EDA.708 Mi-8T began their long march towards the heliport located next to Falso Tiwinza, finally arriving there by 1600 hours. An hour later, and while the recently arrived personnel were busy deploying their equipment and receiving their assignments, a pair of A-37Bs from EC.2311, FAE, appeared over the area and proceeded to attack EP positions located just 300 metres away from the helipad. At that moment, weapons operators Mendoza and Sanjinez, alert to the situation, made use of their assigned 9K32 Strela-2 missiles to fire at the attackers, and although the first missile hit a tree, the second – after going out of the operator’s sight when it turned around a hill as it followed its target – hit and badly damaged the Cessna serial FAE392.

Their actions were witnessed by hundreds of EP soldiers present in the area, and totally changed the mood of the Peruvian forces on the ground, as it had been demonstrated that the FAE could not launch attacks with impunity now that MANPADS were deployed in the area. In retaliation for this incident, the Ecuadorian forces launched a barrage of fire from BM-21 rocket launchers and a 120mm mortar from the heights of PV Cóndor Mirador in the west and PV Coangos in the east. **EA.712** – at 2130 hours a trio of Cessna A-37Bs departed from Capitán FAP Carlos Concha Iberico in Piura to bomb a



A pair of Cessna A-37Bs from EC.2311 at Macas airport in early February 1995. A detachment of six aircraft was deployed to this airfield to provide close support to the Ecuadorian Army forces engaged in combat with their Peruvian counterparts in the Cenepa River valley. (FAE via Santiago Rivas)



This image of the starboard wing of Cessna FAE 392 shows the extent of the damage caused by the explosion of the Strela-2M missile warhead fired by EDA.708 MANPAD operators defending the Falso Tiwinza helipad, which tore away the flap section as well as severing a part of the starboard aileron. (FAE via Santiago Rivas)

landing strip in the proximities of Coangos. The objective, identified hours before by Peruvian intelligence, was part of a series of small landing fields opened by the Ecuadorian forces with the aim to shorten the supply lines to their forward ground forces engaged in the operations in the Cenepa River valley. Flying low over the rugged terrain over the operations area, the Cessnas rendezvoused with an Antonov An-32 from Escuadrón de Transporte 843 armed with a total of 18 napalm containers, carried inside its cargo bay. Once over the target, the barrels were rolled outside the cargo bay, falling over the objective amid small arms fire. Fortunately for the FAP, this daring mission was a success, despite the An-32B receiving hits from .50 caliber weapons.

12 February

FAE

EC.2311 – At 1240 hours, four A-37Bs, each armed with four LAU-131s, took off from Macas airport on a sortie to attack the EP positions at Falso Cueva de los Tayos and Falso Tiwinza. While flying over the latter position, the A-37Bs came under attack from MANPADS fired by the Peruvian forces below, with a single missile exploding near the leading Cessna's right engine exhaust. Fortunately for the Ecuadorians, the damage caused was not critical and the aircraft was able to return to Macas without further incident.

FAP

EDA.708 – At 1300 hours, a formation of four FAE Cessna A-37Bs appeared over Falso Tiwinza, initiating an attack against the EP forces located at those positions. At that moment, Weapons Officer Yabar, after abandoning the safety provided by his trench in the jungle, used his 9K32 Strela-2 MANPAD and, after obtaining a lock, fired against one of the attackers and the missile, according to witnesses, exploded near the right engine exhaust of the Cessna, causing the formation to retreat towards Ecuadorian territory.

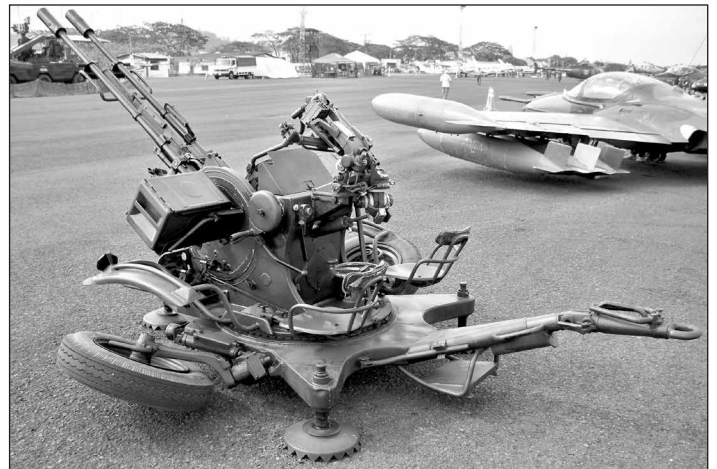
13 February

FAP

EA.111 – Due to the need to obtain information about the nature of the Ecuadorian radar stations along the border, a new ELINT mission was ordered to be carried out by the unit, and a Su-22M3 identified with serial FAP 176 was equipped with a KKR-1 pod and departed, under the command of Major Valdivia, from El Pato AB at 0340 hours under the protection of a pair of Mirage 2000Ps. It returned to base safely at 0520 hours.



Shrapnel damage to the right exhaust nozzle of the Cessna serial FAE392. (FAE via Santiago Rivas)



Positions around Coangos and Cándor Mirador were defended not only by MANPADs but also by several Type 85/YW 306 twin 23mm anti-aircraft guns. The Type 85 was a copied version of the Soviet ZU-23-2 using a WPO-12 optical sight. (FAE via Santiago Rivas)



EP soldiers load urgently needed supplies and ammunition aboard this Mi-17 from EA.341, which then flew them to the Peruvian forces stationed at PV-1. (Ivan Izquierdo Elliot)

EA.331 – A Learjet 36B took off from El Pato AB at 0330 hours on a diversion sortie along with elements from EA.111 and EA.412.

EA.412 – At 0340 hours, a pair of Mirage 2000Ps, with the serials FAP 051 and FAP 064 and flown by Majors Rodolfo Garcia and Jorge Briceño, respectively, took off from El Pato AB to fly as umbrella cover for a Su-22M3 from EA.111 on an ELINT mission along the border.

BAT 811 – The Mi-8T serial EP547, flown by Major Gustavo Escudero Otero, was carrying out a supply sortie between Ciro Alegría and



An Antonov An-72 and a Harbin Y-12 unload their cargo on the dirt runway of El Valor airfield in Bagua. This primitive airfield was located the nearest to the conflict zone and became a strategic logistic centre for Peruvian operations in the sector. (IEHAP)



Transport operations at Macas airport in February 1995. This DHC-5 'Buffalo' from Escuadrón de Transporte, Grupo Aéreo del Ejército 45, wore a colourful paint finish. (FAE via Santiago Rivas)



An Aérospatiale AS.332 Super Puma from the Escuadrón de Asalto of Grupo Aéreo del Ejército 44 'Pastaza' at Macas airport in February 1995. (FAE via Santiago Rivas)



A rare picture of a Bell 212 armed with LAU-7 rocket pods and FN-MAG machine guns. Contrary to 1981, when Bell 212 operated together with Mi-8Ts, in 1995 this helicopter was used for liaison missions only. (Carlos Samamé Quiñones)

PV-1, when it was attacked by Ecuadorian anti-aircraft artillery and suffered considerable damage as a consequence, forcing its pilot to crash land the crippled aircraft in the Tangelosa River, and killing four members of its crew. After nine days lost in the thick of the jungle, the only two survivors – a soldier and a warrant officer – were finally rescued by Peruvian forces.

14 February

On this date, after considering that its ground forces had achieved – at the cost of suffering severe losses – their strategic objectives, namely the recovery of the positions set up by Ecuador on its territory, the Peruvian government declared a unilateral ceasefire. By that time, the FAP had launched a total of 103 combat missions, with its aircraft performing 776 sorties totalling 2,400 flight hours. Meanwhile, the FAE had launched a total of 1,500 sorties, around twice as many as the FAP.

4

CEASEFIRE

15 February

EA.412 – After the unilateral ceasefire launched by the Peruvian government entered into effect, the unit carried out two missions, the first an escort mission of the presidential aircraft between El Valor and Bagua airports, and the second another escort mission for a Learjet from EA.331 carrying out an aerial reconnaissance over the operations area.

17 February

F AE

EC.3212 – A Lockheed T-33, serial FAE619, crashed at Eloy Alfaro AB in Manta due to an engine failure, killing its occupants, captains Jack Bolívar Garzón and Darwin Díaz, who attempted an ejection at a very low altitude. The crew was performing a test flight after the aircraft's Allison J33-A-35 jet engine underwent repairs.

Ceasefire

On 17 February 1995, the Declaración de Paz de Itamaraty was signed in the Brazilian capital Brasília by Peru and Ecuador, who agreed to initiate conversations aimed at finding solutions to the border dispute. On the ground, however, the situation was still volatile and hostilities resumed. On 22 February, Ecuadorian troops around Falso Tiwinza were forced into a retreat after an offensive launched by the EP with the use of special forces – including the Batallón de Comando 'Comandante Ladislao Espinar' No.19, the BIS No.16, 28, 30 and 314 and troops from the Compañía Especial de Comandos No.115 – all of which were elite units specialised in jungle operations and with real combat experience accumulated over 14 years of fighting the Sendero Luminoso as well as illicit drug trafficking in the Alto Huallaga area. The offensive caught the Ecuadorian forces by surprise and caused heavy casualties, forcing the EE troops to flee the Cota 1061, leaving behind a substantial amount of weapons and supplies. Having recovered Falso Tiwinza – the last known position occupied by Ecuadorian forces – the Peruvians declared a ceasefire, claiming that their military objectives



EA.331 was the flight unit assigned under the control of the Servicio Aerofotográfico Nacional (National Aerophotography Service, SAN). A Learjet 25B, one of the two aircraft from the unit sent to the operations area in order to take part in the secretive and high-risk diversion operations launched over Ecuadorian territory during the first days of February 1995, is seen here after suffering a landing gear collapse at Talara. (IEHAP)



The Lockheed Sabreliner AT-33s from EC.2312 suffered a high attrition rate. A pair of incidents were reported at Eloy Alfaro AB in Manta during February 1995. (FAE via Santiago Rivas)



Mi-8Ts and Mi-17s from EA.341 seen during operations from Ciro Alegría base in late January 1995. (Ivan Izquierdo Elliot)

had been achieved, albeit at a heavy cost. Ground operations continued for a few weeks, but eventually – thanks to the intervention of the Organización de Estados Americanos (American States Organization, OEA) and the representatives of Argentina, Chile, Brazil and the United States, acting as peace guarantors – the situation on the ground

stabilised and negotiations resumed, preventing the conflict from developing into all-out war between the two countries. Despite Peruvian government claims, the tactical victory belonged to the Ecuadorians, who successfully managed to integrate military strategy, operations and tactics with an assertive information campaign at both the national (diplomacy) and military (psychological operations) levels, marking a significant achievement for this small nation. Moreover, having been preparing for this war for some time, their forces managed to conduct operations efficiently, and despite the final objective sought by the Ecuadorians not being achieved, the eventual strategic victory achieved by Peru came at a tremendous cost in both men and equipment.

At the time the ceasefire brokered by the OEA and the guarantors came into effect, both the FAE and the FAP had units held in reserve in anticipation of a possible generalisation of hostilities between the two countries. These units were as follows:

FAE

EC.2113 – Concerned about the possibility of a broader conflict, and with that scenario in mind,

the Ecuadorian armed forces HQ decided to keep the eight available GR.Mk.1S Jaguars belonging to Ala de Combate No.21 'Jaguares' based at Taura AB, located south of Guayaquil, as a reserve. Despite only four of these aircraft being in combat-ready condition, the unit waited for orders to launch deep attacks against Peruvian air bases

and strategic assets at Talara and Piura, but the command never came.

EC.2313 – In the meantime, nine BAC 167 Strikemaster 83/89/89A/90s from EC.2313 ‘*Halcones*’ (Falcons) and between six and eight Lockheed Sabreliner AT-33s were at Eloy Alfaro AB in Manta in alert condition, also awaiting orders to enter operations.

FAP

EA.611 – In the meantime, the Peruvian Air Force HQ had similar concerns and, despite the complicated situation of the Mirage 5P4s from EA.611 at the beginning of the conflict, they were kept in reserve at Chiclayo on standby alert, ready to perform deep strike missions against Ecuadorian targets in the Guayaquil bay area if the focalised conflict in the Cenepa River valley eventually escalated into all-out war. Nevertheless, television reports aired several images of M5P4s fully armed with either MATRA JL-100 68mm SNEB rocket launcher/fuel tank combinations or RPK-10 bomb rack/fuel tank containers, as well as Vypel R-3S air-to-air missiles, parked on the tarmac of Teniente Coronel Pedro Ruiz Gallo AB in Chiclayo, with the pilots strapped into their seats and waiting in the cockpits for the scramble orders. However, the peace negotiations meant that the Dardos from EA.611 would not take part in the action during the 1995 conflict.

MOMEPE

On 27 February, the arrival of members of the Misión de Observadores Militares Ecuador-Perú (Ecuador-Peru Military Observers Mission, MOMEPE) organised by the OEA, forced the parties to enforce the ceasefire and, the following day, a joint declaration was made at Montevideo through which the guarantor countries reiterated their commitment to comply with the obligations imposed by the 1942 Protocol. The members of this international team mobilised in and around the conflict area aboard a pair of Sikorsky UH-60 Black Hawk



The recovery efforts carried out by the maintenance personnel of GA No. 11 proved fruitful and by early February they had at total of 24 Su-22 fighter-bombers in operational condition. This line of Su-22s parked on the tarmac of El Pato AB shows some of these aircraft shortly before entering operations. (José Gabriel Bustamante)



Armourers from EC.2111 installing the over-wing racks for MATRA R.550 Magic 2 missiles on one of the SEPECAT Jaguars of the unit at Eloy Alfaro AB in February 1995. (FAE via Santiago Rivas)



EC.2111's armourers show the messages dedicated to Peru's President, Alberto Fujimori, drawn in chalk on the Mk.117 bombs carried by this SEPECAT Jaguar stationed at Taura AB. (FAE via Santiago Rivas)

helicopters – identified with large vertical white bands painted on their fuselages.

On 10 March, the MOMEPE members began meetings in Lima to establish – finally – a demilitarised zone in the disputed area and arrange a parity of military forces at the border. This process



Sikorsky UH-60 helicopters belonging to the Brazilian Army and assigned to the Misión de Observadores Militares Ecuador-Perú (Ecuador-Peru Military Observer Mission, MOMEPE) pictured during take off from PV Cóndor Mirador in March 1995. (Jorge Delgado)

culminated on 25 July, entering into force over the designated areas on 1 October, with the aim that the demobilisation of units located in the conflict zone would conclude on 23 February 1996.

Despite the ceasefire agreement, hostilities continued for a few more days. At 1630 hours on 27 February, the Mi-17 serial EP 644, belonging to BAT 811 and flown Lieutenant Colonel Francisco González Torres, was allegedly damaged by Ecuadorian AA fire (although the Peruvians claim it came down as a consequence of an engine malfunction) while performing a supply mission to EP troops stationed in the vicinity of PV Pachacutec, on the Peruvian shore of the Santiago River, a position which was receiving constant mortar fire from PV Teniente Ortiz, located on the opposite bank but at a slightly higher elevation. Once notified about this by radio communication, the operations command at Ciro Alegría dispatched an Mi-8T, serial EP 581, loaded with stretchers and medical aid with the objective of rescuing the possible survivors. EP581 arrived at Ampama at 1900 hours and began the evacuation of the EP 644 crew members, some of whom were in critical condition. At 1930 hours, the pilot and crew took the decision to fly immediately to Ciro Alegría, a risky endeavour since – to that date – no Eco-Papa crew had carried out night-combat support operations due to lack of proper instrumentation and NVG equipment. After completing radio coordination with the command at Ciro Alegría with the aim of securing a speedy refuelling which would allow the aircraft to reach Bagua airfield, from where the wounded could be quickly evacuated to Lima, the Hip took off from Ampama heading to Ciro Alegría. After an hour of flying in total darkness,

the pilot saw the flares fired in front of his aircraft by personnel at Ciro Alegría, landing safely at 2030 hours. After quickly refuelling, the helicopter continued its flight towards Bagua, arriving there at 2140 hours.

Butcher's Bill

During the 33 days of the conflict, Peruvian forces had mobilised a total of 9,500 men, and admitted suffering 58 killed in action (KIA), 107 wounded and five missing in action (MIA). Ecuador, meanwhile, had managed to deploy around 5,000 troops and its armed forces joint command recognised a total of 34 KIA – a low number compared to the 154 deaths established by the Asociación de Ex Combatientes del Cenepa – and an undetermined number of wounded. In contrast to the claims made by Peru and Ecuador, the Asociación Latinoamericana de Derechos Humanos (Latin American Human Rights Association, ALDHU) has placed the total number of deaths for both sides at around 500.

The arrival of the ceasefire and the subsequent dialogue process gave the Peruvian Air Force much-needed time to recover and improve its operational capabilities, especially since the peace process was hanging by a thread and the prospect of resumed hostilities was a strong likelihood. After a careful study of the weaknesses that had led to a painful series of losses, the FAP HQ decided to launch a re-equipment and modernisation process for its fleet, with a special emphasis on acquiring a fourth-generation fighter with BVR capabilities.

AFTERMATH

The period following the ceasefire was one of great tension between the two countries, but peace efforts, sponsored by the guarantor countries and the OEA, continued, with negotiations starting between Peruvian Foreign Minister Fernando de Trazegnies Granda and Édgar Terán, a former Foreign Minister of Ecuador.

Fulcrums and Frogfoots for the FAP

The Peruvian president had decided to secure peace through the force of arms. This meant forcing Ecuador to the negotiation table or going for an all-out war, which would not only be won with weapons but with the economy. The 1993–98 period marked a resumption of sustained growth for Peru, something that had not been observed since the early 1970s. During this period, several additional structural reforms were adopted, included tax reform, the restructuring of the – bankrupt – pension system, the privatisation of huge and largely bureaucratic public companies and the strengthening of the financial system. Furthermore, Peru finally normalised relations with all its external creditors. These reforms allowed the Alberto Fujimori administration to recover and strengthen the Peruvian economy, and with better times for the economy, funds for the armed forces also began to flow more strongly and steadily.

Since the purchase of brand new aircraft was out of the question for the FAP, due to the long lead times, the only options for obtaining modern fighters lay in the second-hand market. Like bees to honey, several suppliers from suddenly-created export companies approached the Peruvian government offering military aircraft according to the FAP's requirements.

On 22 October, the Peruvian government approached one such company, TREVES-INTORA, to inquire about the availability of products suitable for the FAP. In a reply on 17 November, the company said that it was in a position to supply brand new MiG-29 and Su-25K aircraft from Russia with a lead time of three years. In the letter,

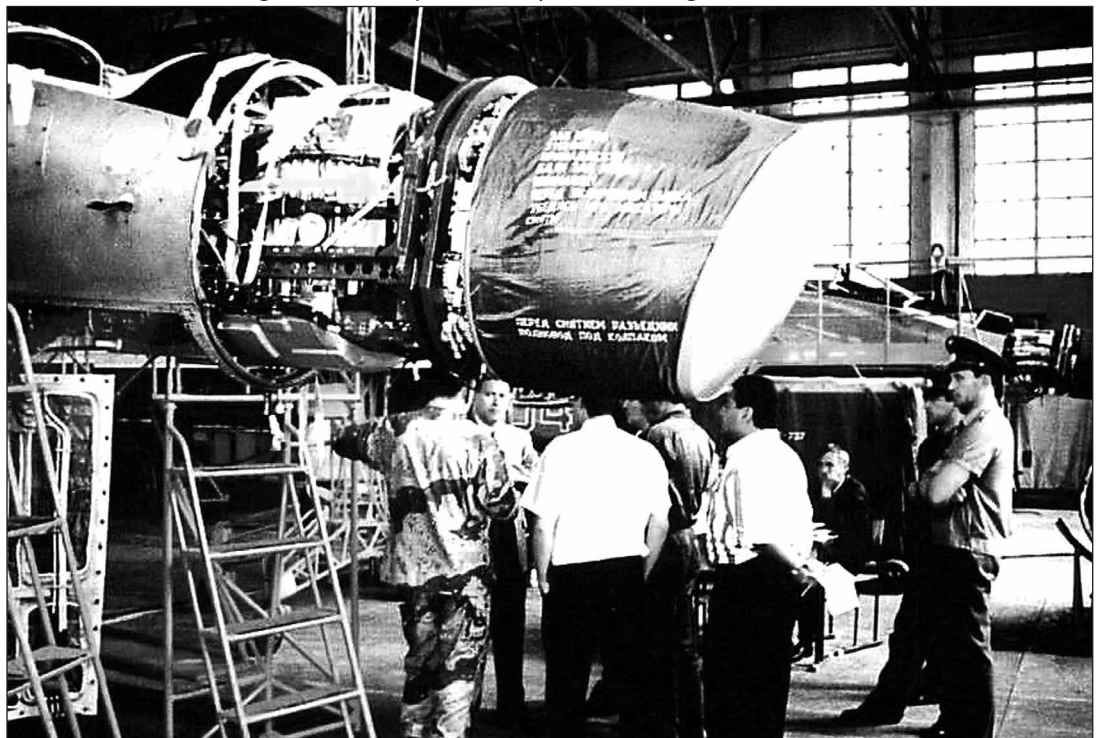
the company also offered similar second-hand aircraft from Belarus but with a much shorter lead time, offering to deliver the aircraft to the FAP in between six and 12 months.

A FAP commission – led by General Rolando Magni – was created on 29 November and ordered to travel to Belarus and check the conditions of the aircraft that had been offered in order to validate that they met their requirements. The commission duly issued a report stating that the materiel available in Belarus was suitable for the FAP.

On 22 January 1996, the FAP's DIDOP designed a two-part scheme for the future acquisition process, considering a defensive-offensive strategy by splitting the available funds between the purchase of



Peruvian Air Force officers in Baranovich, Belarus, in July 1996, where they arrived in order to train on the MiG-29S fighter-bombers purchased by the Peruvian government. (Peruvian Air Force)



FAP maintenance personnel supervise work on the 18 MiG-29S aircraft inside the hangars of the Baranovich aircraft repair factory in Belarus during September 1996. (Peruvian Air Force)



Lieutenant Tryon, Major Muller, IP Chayko (flight instructor), Major Hoyos and Major Valdivia during night flying operations at Baranovich, Belarus, in September 1996. (Peruvian Air Force)



Loading of the first two MiG-29s in the massive cargo bay of the Antonov An-124 Ruslan at Baranovich, Belarus, in November 1996. (FAP)

interceptor aircraft (with a budget of \$266 million) and the recovery/upgrade of the remaining FAP combat fleet (which required an additional \$465 million). On 23 January, Peruvian Defense Minister Tomás Castillo Meza instructed General Danfer Suarez to evaluate the additional requirements that the FAP HQ could add for weapons systems under the defensive-offensive strategy. Two weeks later, on 9 February, General Suarez issued his report recommending the acquisition of MiG-29 and Su-25 aircraft, as well as the provision of smart weapons equipment for Mirage 2000Ps and M5P4s.

On 14 February, the Consejo de Defensa Nacional approved the purchase of the interceptor aircraft, while leaving the other recommendations pending approval. A week later, on 27 February, FAP HQ appointed a commission tasked to evaluate the technical and operational proposals, while by 15 February, the Ministry of Economy was already defining the economic and financial aspects of the contract.

On 13 May, the contract No.I-FA-001-96 Vulcano (Vulcan) was signed for the purchase of 18 MiG-29S fighters. While negotiations had settled the amount at a little more than \$249 million, subsequent addenda – signed on 29 and 30 May 1996, as well as in December 1997 – increased the amount paid by the Peruvian government to more than \$252 million.

The MiG-29S (NATO reporting name Fulcrum-C) was the first improved variant from the MiG-29A Fulcrum and featured flight control system improvements, with a total of four new computers providing better stability augmentation and controllability with an increase of 2° in angle of attack (AoA), along with an improved mechanical-hydraulic flight control system allowing greater control surface deflections. The main external difference was the presence of a larger dorsal hump which housed the L-203BE Gardenyia-1 ECM system. The MiG-29S could carry 1,150 litres (250 imp gal, 300 US gal) in underwing drop tanks and a centreline tank. The aircraft had a larger payload of 4,000kg (8,800lb), and its overall maximum gross weight had been raised to 20,000kg (44,000lb). Early MiG-29Ss featured anIRST sighting system; the MiG-29S improvement kit, including the Phazotron N019M radar and Built-In Test Equipment (BITE) to reduce dependence on ground support equipment; and

improvements to software and processing capabilities to enable the tracking of up to 10 targets and the simultaneous engagement of two with the R-77 missile.

Once the acquisition was settled, it was necessary to create a committee in charge of inspection, evaluation and overall assessment of the condition of the aircraft as a step to the selection of the airframes to be transferred to the FAP. Meanwhile, on 12 May, a commission composed of pilots, engineers and engine, electronics and weapons technicians left GA No.8 in Lima heading to Baranovich in Belarus, with the task of carrying out these duties. Once the 18 airframes had been selected, the group had the task of supervising the tuning of the aircraft acquired by the FAP and familiarising themselves with the type's operation. After four months of intense work and preparation, the commission completed its functions and the men returned to Peru on 7 November aboard an Antonov An-124, which landed at La Joya AB carrying the first two MiG-29Ss. After completing their assembly,

the aircraft were placed under the command of the recently reactivated *Escuadrón de Caza-bombardeo 612* (612nd Fighter-Bomber Squadron, ECB 612) with its base in Chiclayo. Deliveries were completed in January 1997, and an intensive six-month training programme was launched, first at La Joya AB and then at Teniente Coronel Pedro Ruiz Gallo AB, with the unit declared combat-ready in the summer of 1997. The ECB 612 suffered the first loss of a MiG-29S on 2 December 1997, when aircraft serial FAP 044 crashed in Chiclayo after its pilot ejected when suffering spatial disorientation.

The MiGs were not the only acquisitions during this period. In accordance with the defensive-offensive acquisitions plan designed by the FAP HQ, a total of 18 Su-25Ks (10 single-seaters and eight two-seat trainers, known by NATO as Frogfoots) were also purchased from Belarus Air Force stocks in a contract signed on 16 October 1996 with the Intora-W21 consortium, for a total amount of \$150 million. A further contract – for the provision of maintenance and spare parts for a total of \$30 million – was signed shortly after.

The Su-25K (*Komercheskiy*, or Commercial) was the export variant of the Sukhoi Su-25 single-seat, twin-engine close air support aircraft. The first prototype made its maiden flight on 22 February 1975. After testing, the aircraft went into series production in 1978 at Tbilisi in the Georgian Soviet Socialist Republic. Su-25Ks were produced in A and B versions. The A version (delivered to the air forces of the Warsaw Pact, including those that would join the air force of the independent Belarus) differed from the Su-25 operated by the Soviet Air Force in certain minor details concerning internal equipment list, which included only the IFF (the SRO-2 instead of SRO-1P) and encryption equipment. It was also stripped of the equipment that enabled it to deliver nuclear weapons. The Su-25UBK was the training variant. It had a similar performance as the single-seater, and its navigation, attack, sighting devices and weapons-control systems enabled it to be used for both routine training and weapons-training missions.



A batch of Moravan Zlin 242Ls, a two-seater aerobatic aircraft derived from the successful Zlin Z42, manufactured in the Czech Republic by Zlin Aircraft, was purchased by the FAP in late 1996 as replacements for the Cessna T-41 Mescalero fleet. The fleet was officially presented on 20 September 1998, with the aircraft being assigned to *Escuadrón de Entrenamiento Primario 511* (511th Primary Training Squadron) under the command of *Grupo Aéreo 51* (Air Group No.51) operating from Las Palmas AB. Starting in the 2000s after the disbandment GA No.9, Air Group No.51 moved its operations to Capitán FAP Renán Elías Olivera AB in Pisco under the name of *Escuela de Formación de Pilotos* (Pilot Formation School, EFOP).



President Alberto Fujimori surrounded by officers from EA.112 during the type acceptance ceremony held at Las Palmas AB on 23 July 1997. (Peruvian Air Force)

Like the MiG-29s, the Frogfoots were surplus Belarus Air Force aircraft which belonged to the last batches of Su-25Ks produced before the fall of the USSR and had very few hours recorded on their structures. As part of the agreement, all airframes were fully inspected and reconditioned prior to delivery to the FAP. Upon arrival, the units were assigned to the recently activated *Escuadrón Aéreo 112* (EA 112), under the command of *Grupo Aéreo No.11* based at El Pato AB in Talara.

In late 1997, in anticipation of an all-out war with Ecuador, the Peruvian Air Force issued a requirement for the purchase of Anti-Radiation Missiles (ARMs), with the intention to degrade FAE air defences in the first stage of the conflict in order to increase the chances of survival for the following waves of strike aircraft. An evaluation committee was created within the purchase process, and shortly after this ad hoc unit issued a report recommending the purchase of the K-31P ARM. This missile, however, could not be launched by the MiG-29S operated by the FAP, with a rather expensive upgrade required in order to do so, so the purchase of these supersonic weapons was discarded. The second ARM evaluated by the FAP – the Kh-58U/E (NATO reporting name AS-11 Kilter) – was selected instead, and, on 3 December 1997, an addendum to contract No.I-FA-001-96 was signed between the FAP and Sukhoi OKB for the provision of 12 missiles and the modification of four of the eight Su-25UBKs to the Suppression of Enemy Air Defences-role specialist aircraft configuration. These Frogfoot-Bs received a new avionics package comprising the L150 Pastel radar warning receiver/emitter locator system, with most of its black boxes – together with the launch control and target designation equipment of the Kh-58U/E anti-radar missile – housed in a KRK-UO under-fuselage pod. The rear cockpit instrument panel was modified by adding an IM-3M-14 monochrome CRT display, which provided target and launch control information, derived from the Pastel and the seeker heads of the ARMs. Data – comprising range, bearing and probable type of the enemy emitter, for up to six radars operating in the frequency between 1.2 and 18 GHz – could be displayed on the CRT, together with cues for launching the Kh-58U/E ARM, which boasted launch distances of between 4.3 and 54 nautical miles (8–100km).¹ Work on the first FAP Su-25UBK was completed in January 1999, and deliveries of the missiles followed later that month.

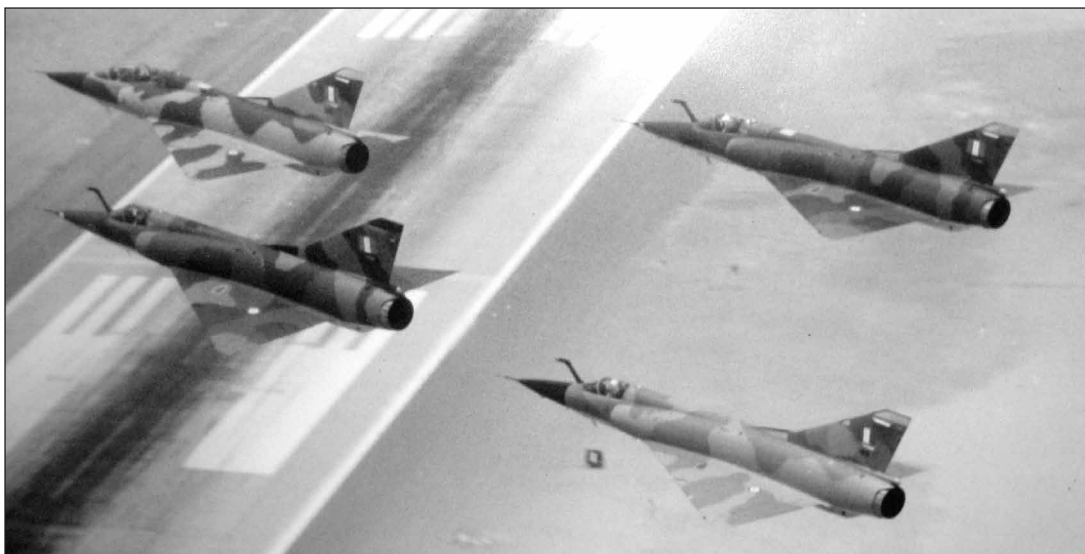
In the meantime, Russia was not happy about the whole purchase deal and quickly informed the Peruvian government that Belarus had sold the planes without consulting the manufacturers and that therefore no support would be available for its new fleet of Migs and Sukhois. A political scandal erupted in Peru when this news reached the opposition party, especially when in September 1998 – in order to open the door to the supply of spare parts for its fleet – the Peruvian government was ‘forced’ to acquire from Russia three additional – brand new – MiG-29SEs (index 9.13) as part of an agreement which included the provision of spare parts and maintenance for the entire fleet, ensuring its future operation.

Fitters

The allocation of funds to EA.111 allowed the implementation of a programme aimed at improving the survival capabilities of combat aircraft. Thus, in 1996, 12 of the 40 Su-22s still on strength with the unit were withdrawn from service, while the remaining aircraft were subject to an upgrade to their active and passive protection systems. Under the codename Glow Worm, a number of Su-22s and Su-22Ms were fitted with locally manufactured chaff and flare decoy dispensers and electronic countermeasures based on the Soviet ASO-2V, as well as Elisra SPS-20 RWR sensors. The latter complemented the SPO-10 Siren 2 system, which was also subject to improvements, achieving the extension of its detection capacity and parameters. Subsequently, under the Rook programme – implemented to all FAP combat aircraft between 1997 and 1998 – the remaining Su-22s received new Stand Alone Missile Protection (SAMP) chaff and flare dispensers thanks to a contract signed with Israel Military Industries (IMI). Finally, the SPS 141 MVG-E electronic warfare system – the export version of the MVG – and the R-60/AA-8 Aphid air-to-air missiles that had arrived together with the Su-25 acquired during 1997, were adapted for use with the Fitters.

Mirages

As part of the plans for the recovery/upgrade of the FAP combat fleet, substantial funds were devoted to allow the return the remaining M5P4 aircraft to operational status as well as to increase their survival capabilities in order to face – in better conditions – a potential protracted conflict with Ecuador in case peace talks failed. Accordingly, during



A formation of aircraft from EA.611, comprising three Mirage 5P4s led by a Mirage 5DP4, fly over the runway of the Mariano Melgar/La Joya AB in Arequipa in February 1998. (FAP)



An AMD-BA Mirage 5P4 prepares to land at Las Palmas AB in the late 1990s. At least four Mirage 5P4s are known to have received the tropical paint scheme, known as the jungle pattern. (Danny Moeri)

1997 and 1998, the Mirage 5P4 fleet underwent an exhaustive airframe and engine inspection and repair programme, as well as an electronic countermeasures and passive defence systems upgrade in the form of the integration of IMI SAMP chaff and flare dispensers and SPS-20 radar warning receivers as part of Operación Grajo (Operation Rook).

The reinforced EA.611 embarked on an intensive operational period that included mock-up attacks against simulated Ecuadorian strategic targets over the Reque gunnery range. With the arrival of the MiG-29 fighters and the subsequent reactivation of EA.612, the Mirages from EA.611 were reassigned to La Joya AB in Arequipa, from where they operated as part of the reformed EA.411. The unit, however, was short-lived and performed more like an operational detachment due to the lack of aircraft available to bring it up to squadron strength.

In the meantime, the Mirage 2000Ps from EA.412 were also subject to an upgrade of their ECM capabilities, which included the installation of the SPIRALE decoy system which was totally integrated to the Mirage 2000's countermeasures system. The SPIRALE ammunition payload consisted of up to 36 cartridges fitted into the cartridge dispenser modules and 112 chaff packs in the internal chaff dispensers.

Between late 1997 and early 1998, Dassault Aviation approached the Peruvian government with an offer to improve the M5P4's strike capability by means of an upgrade comprising a Thales 3000 laser-gyro Inertial Reference System, a Thomson-CSF ATLIS II Laser Designation Pod and associated cockpit equipment, landing gear reinforcement as well as a new wheel braking system. By this time, unfortunately, lack of funds prevented any further interest in this upgrade. Shortly afterwards, a couple of Mirages were employed to test bombs fitted with Lizzard/Opher precision guidance systems, part of the Whizzard family of precision guided munitions developed by Elbit of Israel. These kits could be installed in conventional Mk.80, Mk.82, Mk.83 and Mk.84 bombs, and the combination of infra-red (Opher) and laser (Lizzard) guidance systems provided the FAP with point-kill targeting capabilities against moving targets such as vehicles, as well as hardened objectives. However, as neither the Mirage 5P4s nor the Mirage 2000P fleet were upgraded with the associated equipment to guide such weapons, guidance and tracking had to be done by means of a second aircraft with infrared guidance capabilities (in the case of



As part of the Programa de Entrenamiento 2000, the Mirage 5 system took part in the test of Elbit's Wizzard precision munitions delivery system, which was completed with guidance provided by a second aircraft or ground designators. Here, a Mirage 5DP4 takes off from Capitán Renán Elías Olivera AB in Pisco for a bombing exercise. (Lewis Mejia)



During 1997 and 1998, the Mirage 2000P fleet received a limited ECM and weapons upgrade, which included the fitting of the SPIRAL electronic countermeasures suite as well as the capability to launch the Wizzard weapon system, manufactured by Elbit in Israel. (Herbert Alcorta)

the Opher) and/or by laser air or ground designation (in the case of the Lizzard).

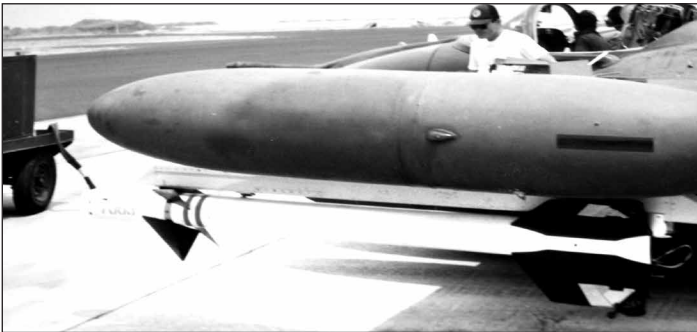
FAE

EC.2112 – In an effort to modernise the Mirage F.1JAs in order to cope with the threat presented by the acquisition of MiG-29S fighter-bombers by the FAP, an upgrade programme was launched in 1997 with the aim to enhance the navigation, defence and offensive systems capabilities of their Dassault-Breguet Aviation Mirage F.1JA/Es. The programme included the addition of a Thales Totem 3000 Inertial Reference System, a GPS receiver and the installation of an Elisra Self-Protection System (SPS)-45 (V) which integrated the RWR with electronic defence systems and chaff and flare dispensers. Finally, with the aid of Israeli technicians, their F.1JAs were configured to carry the recently acquired RAFAEL Python Mk.III air-to-air missiles – mounted on the outer underwing pylons – in addition to the Matra R.550 Magic 2 on wing-tip launch rails.

EC.2113 – Simultaneously to the upgrade carried out on the Mirages from EC.2112, in January 1997 the FAE signed a contract with IAI for the upgrade intended to bring the fleet of Kfir C.2s from this unit up to the C-10 standard. Work included a redesign of the forward



Trials for the upgraded Cessnas were carried out during early 1997 and proved successful. The arrival of the Embraer A/T-29 Super Tucano, however, put an end to the A-37B's operations with the FAE and the version was withdrawn from service in 2011. (FAE via Santiago Rivas)



After the 1995 conflict, the FAE launched an upgrade programme for A-37Bs from EC.2311 which included the fitting of IFF antennas, RWR sensors and the installation of a dual-rail rack for a pair of RAFAEL Shafir Mk.II missiles. (FAE via Santiago Rivas)

section, with new air intakes and a single-piece windshield – offering improved visibility to the pilot – as well as the presence of an IFRP and an elongated nose, housing new avionics and a new Elta EL/M-2032 multi-mode radar providing 'air-to-air' and 'air-to-ground' capabilities, giving the aircraft the ability to use the RAFAEL Derby active radar missile as well as the latest versions of the RAFAEL Python infrared missile. The new modernised cockpit with HOTAS flight

commands included a sight over the improved HUD control panel and two new 4.4-inch (127 x 177mm) colour multi-function flat-panel displays, displaying the new radar information on the left display, while the right usually presented flight parameters. The prototype for the Ecuadorian Kfir upgrade, known as the Kfir-CE, flew for the first time in Israel during 1998, and the first aircraft landed in Taura in April 1999.

Air Defence – In October 1997, the Ecuadorian Air Force's air defence was strengthened with the delivery of a number of 9K33 Osa (ASCC/NATO codename 'SA-8 Gecko'), a highly mobile,

low altitude, short-range tactical surface-to-air missile system. That year also saw the deployment to Taura AB of a battery of GDF-003 Oerlikon 35mm twin-barrel anti-aircraft guns manufactured by Oerlikon-Contraves, with off-gun digital control systems.

The COS-2, equipped with an AN/TPS-70 radar, was activated on 12 April 1995 in the Napo–Galeras sector in eastern Ecuador. This was followed on 17 September 1996 by the COS-3, equipped with an AR-3D and stationed in the Ambato region, placing the radar at an altitude of 12,631ft above sea level and linked to all MANPAD and anti-aircraft artillery systems in the Ecuadorian Army and Air Force arsenal.

The Peace Process

In January and February 1996, the foreign ministers of Peru and Ecuador held a series of meetings, beginning in Lima on 17-18 January and continuing in Quito on 22-23 February. At these meetings, the peace guarantors' representatives were given a list of remaining impasses. A further meeting took place in Brasilia on 6 March, during which the lists of sticking points for both countries were handed to the Ecuadorian and Peruvian foreign ministers.



In 1997 an upgrade programme was launched with the aim of enhancing the navigation, defensive and offensive systems capabilities of the Dassault-Breguet Aviation Mirage F.1JA/E. The programme included the addition of a Thales Totem 3000 Inertial Reference System, a GPS receiver and the installation of an Elisra Self-Protection System (SPS)-45 (V) which integrates RWR with electronic defence systems and chaff and flare dispensers. Finally, the F.1JAs were configured to carry the recently acquired RAFAEL Python Mk.III air-to-air missiles – mounted on the outer underwing pylons – in addition to the Matra R.550 Magic 2 on wing-tip launch rails. (Jorge Delgado via Santiago Rivas)



A view of the helipad at COS-2, an early warning station equipped with an AN/TPS-70 radar activated on 12 April 1995 in the Napo–Galeras sector in eastern Ecuador. (Jorge Delgado)

On 18 June, a meeting was held in Buenos Aires, establishing the procedures to follow in order to deal with the remaining impasses between the sides. On 28 October, the so-called Santiago Agreement was signed, establishing that the remaining impasses should be treated separately, sequentially and without vetoes and with the eventual collaboration of the peace guarantors.

After nearly a year of diplomacy, the Declaration of Brasilia was signed on 26 November 1997, opening the second phase of negotiations. Both sides agreed to seek a final solution through the creation of four Commissions that would study (a) a trade and navigation treaty, (b) a comprehensive border integration agreement, (c) the establishment of the common land border in the disputed area and (d) the establishment of mutual trust and security measures between the two countries. On 19 January 1998, the talks schedule was approved, with 30 May as the deadline. This was a critical meeting due to the setting of a date for the delivery of the opinions worked out by the various commissions, whose technical legal opinions, especially regarding territorial demarcation, were favourable to Peru, had the support of the guarantor countries and were the framework through which localised border tensions would be interpreted.

From 28 July to 13 August 1998, however, after the detection of a new Ecuadorian infiltration in the Cordillera del Cóndor area, and within the international relations and opinion of the guarantor countries regarding the progress made by the technical legal commission's framework, MOMEPA intervened by establishing a

new Control and Surveillance Zone located to the south of the original Demilitarised Zone.

In the meantime, on 10 August 1998, Jamil Mahuad took office as the new Ecuadorian president and, three days later, met with Peru's President Alberto Fujimori – who had been re-elected for a third term in April 1995 – in Brasilia. There was then a series of meetings and negotiations on the basis of the desire of both states to avoid a generalised conflagration, for which both governments reached a declaration by which they agreed to resolve, definitively, all their border differences, as well as pledging to sign a series of economic and social integration agreements. These negotiations ended with the signature, on 23 October

1998, of the historic peace agreement in Brasilia which put a definitive end to the border conflict between the two countries.

Unfriendly guarantors

The peace negotiations were marked by scandals involving two of the guarantor countries, Argentina and Chile, after local and international press made public that both countries had sold military equipment to Ecuador during the conflict.

Argentina sold a total of 75 tons of weapons, worth \$33 million, to the Ecuadorian Army. The equipment comprised 8,000 FAL rifles, 36 105mm and 155mm mountain and field artillery pieces, 10,000 9mm pistols, 350 mortars, 50 heavy machine guns, 58 million 12.7mm ammunition rounds, 45,000 artillery rounds, 9,000 grenades as well as other explosives. These weapons left Ezeiza airport in Buenos Aires bound for Caracas in Venezuela on 17, 18 and 22 February, and were then transferred to Ecuador.

Chile, in the meantime, had also delivered weapons and military equipment to the Ecuadorian Army in the middle of the Cenepa conflict. Opposition congressmen denounced Peru's President Fujimori for denying permission for FAP planes to intercept, on 31 January, two FAE cargo aircraft which, after making a stopover in Brazil, headed for Iquique, Chile, in order to carry supplies and weapons. The Chilean government defended its position by arguing that the delivery of these items was under a contract signed before the beginning of the conflict. The value of the sale was \$1.9 million and consisted of 3,000 rifles, 7,829 magazines and 300 M72 LAW rockets.

PEACE AND BEYOND

After a year-and-a-half of intense talks, and a pronouncement by international experts on the border line dispute, the two countries, with the approval of their respective congresses, agreed to submit their differences to the decision of the 1942 Rio Protocol guarantors, who – in the end – confirmed the Protocol's validity, together with the Blas Dias de Aguiar arbitration as well as other complementary documents. The signatories of the act were:

- Alberto Fujimori, President of the Republic of Peru
- Fernando de Trazegnies Granda, Minister of Foreign Affairs of Peru
- Jamil Mahuad Witt, President of the Republic of Ecuador
- José Ayala Lasso, Minister of Foreign Affairs of Ecuador
- Fernando Henrique Cardoso, President of the Federal Republic of Brazil
- Carlos S. Menem, President of the Argentine Republic

- Eduardo Frei Ruiz-Tagle, President of the Republic of Chile
- Thomas F. McLarty III, representative of the President of the United States of America.

The document recognised Peruvian sovereignty in the area formerly known as Falso Tiwinza, granting Ecuador 1km² of private property in that area – to be used as a burial ground for its troops killed during the conflict – which was to be placed under the rule of Peruvian law. Anyone born in Tiwinza was to be considered Peruvian. Finally, in May 1999, a major milestone was reached when this two-century-long conflict was brought to an end, opening the way for peace between the two countries and economic integration in the region.

FAE

At the end of 2010, the FAE, after carrying out feasibility studies

to replace the Mirage F.1Es which were at the end of their operational life, signed a contract with the South African government for the provision of 12 Denel Aviation Cheetahs, along with support equipment, spares and training, for a total of \$78.4 million. The package consisted of 10 Cheetah Cs and a pair of Cheetah D aircraft previously operated by the SAAF. Additionally, Ecuador signed an agreement with Denel to maintain the aircraft for five years, at a cost of \$7 million annually. The Cheetah is a modernisation of the French Mirage III developed by Denel Aviation, based on the Israeli Kfir fighter, with major external differences including a complete renovation of the airframe with the implementation of fixed canards, two new weapon points on the wings, a new IFRP, new ejection seats and a more powerful engine. Internal differences included more sophisticated avionics, radar and self-protection suites. The Cheetah's electronics and weapon systems were compatible with those of the eight Israeli Kfir CE's – equivalent to the Kfir C.10 version – in service with the FAE. The delivery of these aircraft was completed by February 2012.



A Cessna A-37 from EC.2311 Dragones parked in front of the hangars of Centro de Mantenimiento de la Fuerza Aérea (Air Force Maintenance Centre, CENFA). (FAE via Santiago Rivas)



A pair of Mirage F.1JAs from EC.2112 showing the results of their upgrade, which allowed them to carry the RAFAEL Python III missiles. (Santiago Rivas)



A line of 13 Su-22s from EA.111 parked on the ramp of Captain FAP Víctor Montes airport in Talara, where the unit moved after the arrival of the Su-25K/UBKs from EA.112 in 1997. The aircraft sported their new tropical paint scheme, adopted in accordance with the theatre. (FAP)

FAP EA.111

With the election of a new government in 2000, the Peruvian military faced new budget cuts which affected the operational capability of several weapon systems. One of the units which suffered most due to the lack of funds was the EA.111, whose Su-22s – an expensive type to operate – slowly began to show signs of deterioration. In 1999, the Su-22M serial FAP 026 crashed at Organos, in Talara, during a training flight, with its pilot making use of the K-36 ejection seat and surviving the incident. Then, on 19 June 2001, during a ‘Vampiro’ (Vampire) night attack and operational navigation training, the Su-22U Fitter G serial FAP 016 crashed in Talara, killing both of its occupants, Major Dante Alva Gustavson and Captain Ivan Carrillo Vega. Then, at 1500 hours on 17 December 2004, after the Su-22UM3 serial FAP 028 crashed into a populated hill south of Las Palmas during a training flight, investigations revealed that the aircraft suffered an engine malfunction which led to a sudden loss of power, causing it to crash. As a result of this incident, Major Winston San Martín Canales and Captain Mauricio Pérez Velarde lost their lives.

By 2006, the FAP had only 23 Fitters – out of a total of 55 Su-22s that had been acquired – on its strength. The final nail in the coffin for the Su-22 came



A pair of Su-22Ms fly over the coast of the department of Piura during an instruction flight in early 1999. Both aircraft are equipped with RWR sensors, located both in the tail section as well as under the engine air intake. (FAP)



The Su-22 serial FAP 011 parked on the ramp of Grupo Aéreo No.6 in Chiclayo in the early 2000s. Note the presence of the SAMP chaff and flare dispenser suite on the port tail section, integrated as part of the improvements aimed to increase the survival of the Fitter in modern air war scenarios. (Amaru Tincopa)



The Su-22UM3 serial 028 prepares to take off from El Pato AB on a training flight on 10 November 2004. This aircraft would be lost just over a month later when it crashed on a hill near Las Palmas AB at 1500 hours on 17 December while taking part in an aerial display over Las Palmas AB during a ceremony for the end of the academic school at the Escuela de Oficiales de Aeronáutica (Air Force Officers School).



The landing of a Sukhoi Su-22UM-3K from EA.111 on the runway of El Pato AB in Talara after completing a training sortie in the summer of 1997. Note the Soviet-made RSBN-4N navigation aid system in the foreground. (FAP)



Another shot of the same aircraft flying low over the Sechura desert in northern Peru. (Roberto Medina)



This close-up view of the rear section of the Su-22UBK serial FAP 028 shows the locally manufactured chaff and flare decoy and electronic countermeasures dispensers, a copy of the Soviet ASO-2V, as well as the presence of new avionics antennas. (Amaru Tincopa)

on 25 May 2006, when the Su-22UM3 serial FAP 029 crashed near Callanca, in Monsefú-Lambayeque. Its occupants, Major Martin Cangahuala and Captain Castro, were injured but survived after using their ejection seats at low altitude.

The continual reduction of funds made the logistical situation of the Su-22 fleet increasingly difficult, reducing their operability more and more. By the end of 2006, the FAP HQ placed the surviving 20 airframes into reserve, marking the beginning of the end for this type's service in Peru. While some units remained operational, their use was rather sporadic and all flight activity ceased in July 2007.

EA.112

Not long after the end of hostilities, this unit's Su-25s saw use in anger in an innovative role, as interceptors of drugs-trafficking aircraft. In 1999 and 2000, the Peruvian Frogfoots were rushed into action to reinforce the nation's anti-drug campaign under the auspices of the Air Bridge Denial Programme. Signed during the early 1990s between the governments of Peru and the



A Su-25UBK prepares to take off on another training sortie from El Pato AB in Talara. The smaller outboard pylons carried P-62-I that could launch either R-3S (AA-2D Atoll) or R-60 (AA-8 Aphid) missiles. The aircraft is equipped with a rack that was painted in a two-tone dark green and medium green overall. (FAP)

United States, the programme consisted of a counter-narcotics air interdiction operation over the Peruvian Amazon. Under this programme, the United States' Central Intelligence Agency (CIA) was allowed to conduct surveillance missions over Peru's coca-growing regions and passed suspicious aircraft location data to the Peruvian Air Force, who would then intercept the suspected narcotic-trafficking aircraft and either force them to land or shoot them down. These real-world air-to-air operations (anti-drug patrolling) proved that the straight-winged aircraft with extensive high-lift devices sported remarkable low-speed agility. The Su-25 also boasted a good thrust-to-weight ratio, which in turn enabled it to successfully undertake intercepts of civilian aircraft smuggling raw cocaine and cocaine paste from the upper Huallaga valley in the northern part of Peru. There were unconfirmed reports of them shooting down the drug-carrying aircraft with R-60M short-range air-to-air missiles, but the majority of interdictions were most likely carried out using the powerful GSh-30 twin-barrel cannon. The first such downing was claimed in 1998, and at least



A formation of Su-25K aircraft from EA.112 fly over the facilities of the oil refining plant located in the city of Talara, a high-value target for the FAE. (FAP)



A formation of FAP aircraft perform a low altitude passage over Las Palmas AB during a ceremony held on 23 July 1998. One of the recently delivered Su-25UBKs leads a Cessna A-37B and an Aermacchi MB.339, all of which sport paint schemes in accordance with the new parameters for paint finish established by the Peruvian Air Force in the second half of the 1990s. (Herbert Alcorta)



A Su-25K flying low over the characteristic buildings at El Pato AB. Noticeable to the left is the large maintenance hangar which was christened La Fábrica (the factory) during the conflict on account of the large number of aircraft that were 'rebuilt' there. (FAP)

EA.112 suffered the effects of the budget restrictions experienced by the air force during the 2001–2010 period, which seriously affected the unit's operations. As consequence, by 2006, only four of the 18 airframes on strength with the unit were still serviceable. The annual inspection of these aircraft was in many cases overdue, a situation that led to a significant decrease in flights. At the end of the decade, the FAP launched an inspection programme and recovery of the operational capabilities of the Su-25K/UBKs of GA No.11, which had a long execution period – again due to budgetary problems – with the deliveries of the first units only in mid-2018.



GA No.11 celebrated 25 years since the arrival of the Su-22, and 60 years since the unit's creation, in March 2002 by applying a commemorative paint scheme to its aircraft. This particular Su-22UM3, identified with serial FAP 029, would later be lost on 25 May 2006, near Callanca in Piura. Its occupants, Major Cangahuala and Captain Castro, survived with some injuries after engaging their ejector seats. (Chris Lofting)



The Su-25s from EA.112 were also decorated with the Tiger, the emblem of the unit, applied on the nose of the aircraft. (Chris Lofting)

25 light aircraft transporting cocaine had been shot down by the Tigres from EA.112 when the programme was closed after the accidental shooting down of a missionary aircraft over the Amazon jungle in 2001.

EA.611

Unfortunately for the Mirage 5P fleet, the political turmoil experienced in Peru during the end of the 1990s and the beginning of the new millennium brought with it an economic crisis that translated into budget restrictions for the armed forces. The Peruvian Air Force saw its operations reduced to a minimum, and it was forced to withdraw from service three of its six front-line weapon systems, one of these being the Mirage 5P4 fleet. During 2001/2002, the remaining Mirage 5P4/DP4 airframes were subjected to long-term storage in Las Palmas AB hangars, while awaiting their possible sale to Pakistan, which had shown interest in 13 aircraft. Negotiations did not conclude with an order, and as of July 2011, the Dardos were still collecting dust at the same location.

EA.211

Towards the end of the 2000s, remaining Mi-25 airframes were rapidly approaching the end of their flying hours, thereby threatening to halt unit operations. In 2011, the FAP made the decision to carry out a life-extension programme for six of its surviving Mi-25s. However, since work on these airframes would take at least six months to be completed, and during that period the FAP would be devoid of these aircraft, the decision was taken in July 2010 to order two Mi-35P gunships (ASCC/NATO codename 'Hind F'), along with six Mi-171Sh Hip-Hs. This decision was taken in order to keep the unit in operations as well as to replace attrition. The cost of this order, which included the provision of assistance and technical support for these aircraft, reached \$107.9 million.



A formation composed of three Dassault-BA Mirage 2000P and three MiG-29 – one S and a pair of SEs – Fulcrum-C fighter-bombers during manoeuvres in 2005. (Peruvian Air Force)



Taken during the summer of 1996, at least four Avions Marcel Dassault-Breguet Aviation Mirage 5P4s can be seen at SEMAN facilities at Las Palmas AB during the upgrade of their ECM and passive defence suites, which included the fitting of radar warning receiving sensors and chaff and flare dispensers. (Peruvian Air Force)



A formation of AMD-BA Mirage 5P4s and Mirage 2000Ps during a training sortie over the Peruvian coast in 1997. Note the tropical paint scheme on the M5P4 leading the formation. (FAP)



An AMD-BA Mirage 5P4 parked on the SEMAN ramp at Las Palmas AB after completing the modifications on its structure, which included the installation of an ECM suite as well as chaff and flare dispensers. Once the work was completed, the aircraft received a coat of black paint on their noses in order to make them appear like the more modern Mirage 2000Ps of the EA.412. (Stenio Bacciocchi)



A pair of AMD-BA Mirage 5P4s and a single BAC Canberra B(I)Mk.12 parked at Las Palmas AB in early 2001. Despite the effort put in to keep these aircraft flying, the days of operations with the FAP for both of these types were numbered. (IEHAP)



One of the two Mi-35Ps, acquired by the FAP as part of the recovery capabilities programme launched for EA.211, parked outside the Rostvertol helicopter plant in Rostov-on-Don on 1 March 2011. (IEHAP)

EA.412

Despite having been the most modern fighters in Latin America, by the mid-2000s, the FAP Mirage 2000 fleet was lagging behind in the face of the arrival of more modern models in the region, and airframes were rapidly approaching the need to undergo major inspection. In 2012, the Peruvian government finally released the funds for the \$140 million VP5 major inspection and maintenance programme involving

France's Dassault Aviation, Snecma Moteurs and Thales. FAP technicians and specialists received training in France, with the inspection being performed at La Joya AB by Peruvian personnel with French engineers and specialist assistance, and the programme was completed in the summer of 2013. A second programme was still awaiting funds in 2021, including for the enhancing of combat capabilities of the type with the fitting of a new radar and avionics, as well as state of the art air-to-air and air-to-ground weaponry.

EA.612

The purchase of the MiG-29S/SEs and Su-25K/UBKs was the subject of a massive political scandal that shook Peru in the years following Alberto Fujimori's resignation as president on 20 November 2000. On 13 May 2001, a second aircraft was lost due to mechanical failures, crashing near the Teniente Coronel Pedro Ruiz Gallo air base in Chiclayo. During the following years, the Peruvian Air Force would suffer the effects of both a political vendetta and obscure purchase procedures that would lead to a decrease in operability and capability of its new acquisitions.

In 2008, the Peruvian Air Force designed a programme for the recovery and upgrade of the MiG-29S/SE fleet to increase the type's capabilities in the face of the region's new demands. For this, the FAP negotiated with Russia for the implementation of a programme to modernise the MiG-29 fleet in order to extend their useful life, as well as improving their combat capabilities. After numerous delays, the Peruvian government cleared the funds for the project, totalling \$107 million, allowing work to begin at the end of

2008. Work on eight (six MiG-29S and two MiG-28UBs) out of the 19 airframes still on strength was completed in 2012. The modernised aircraft, renamed the MiG-29SMP, had improved capabilities with the installation of improved sensors, a radar with better characteristics that allows it to carry a greater variety of weapons – both air-to-air and air-to-surface – HOTAS controls, a digitalised cockpit that improves the pilot's interface with its instruments and an IFRP. With these new

capabilities, the MiG-29SMP will continue to be the backbone of the country's air defences until the middle of the 2020s, when the system is scheduled to be withdrawn from service.

Unfortunately, EA.612 lost its third MiG on 29 March 2019 when an SMP crashed at Pampas de Reque, in the province of Chiclayo, due to mechanical failure. The pilot managed to turn his aircraft away from a populated district before ejecting safely over a remote area.

EA.921

The massive budget reductions and the progressive withdrawal from service of the Canberra around the world – with the consequent scarcity of spare parts – began to significantly affect the operations of the aircraft type. Additionally, with no life-extension programmes in sight, the progressive expiration of the airframes' lifespan began to ground the EA.921 aircraft one by one, although strenuous efforts were made to obtain spare parts. The Canberra was an expensive aircraft to operate: for example, each set of engine starter pyro-cartridges cost more than \$15,000 by 1999.

After some years of very limited operation, on 5 July 2002 the MA ordered the suspension of flights for the Canberras in service with EA.921. Despite this, some flights continued aboard the Canberra serial FAP 256, the last airframe in airworthy condition. In 2003, GA No.9's activity was restricted to engine runs on that aircraft in order to keep it in operational condition. Finally, in December of that year, all EA.921 activity came to an end when the order arrived for the disbandment of GA No.9.



The colourful scheme applied to this Mi-35P contrasts with the Misti volcano, in Arequipa, in the background. (FAP)



At the end of 2006, the EA.412 Mirages received a new paint finish similar to that employed by the French Air Force. Here, the Mirage FAP 060 prepares to land at La Joya AB in Arequipa after completing a routine training sortie. Note the Falcon decoration on the tail, applied to this aircraft to mark the 25th anniversary of the arrival of the type. (Lucas Herrera)



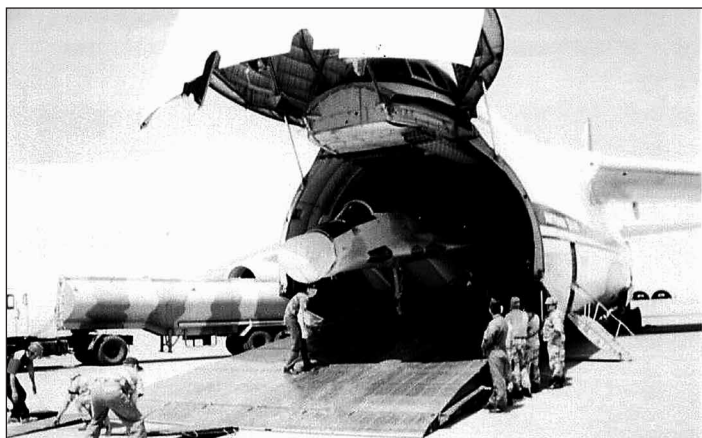
An AMD-BA Mirage 2000P, serial FAP 062, from EA.412 seen parked in front of one of the hangars of Mariano Melgar/La Joya AB in Arequipa. (Chris Lofting)



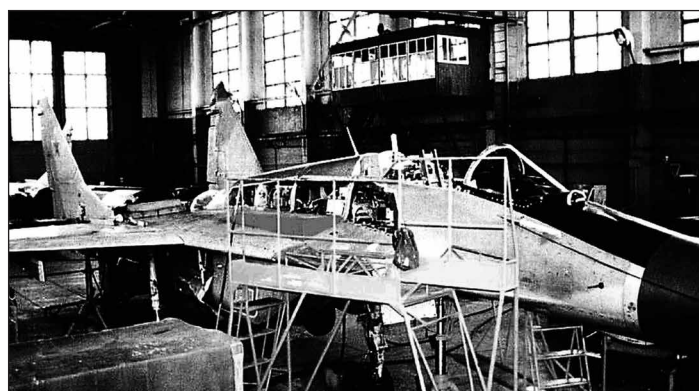
A ventral view of an AMD-BA Mirage 2000P taken during an air-to-air combat training flight. The wing roots of the aircraft show the distinctive sensors and decoy dispensers common to the SPIRALE electronic countermeasures system fitted to the aircraft of EA.412 in 1998. (Carlos Chávez Cateriano)



At the beginning of 2012, the Mirage 2000 fleet from EA.412 entered a major inspection, or VP5, receiving a new paint finish consisting of a low-visibility scheme. Here, a Mirage sporting its new paint job lands at Las Palmas AB in July 2013. (Amaru Tincopa)



A MiG leaves an An-124's cargo bay shortly after arrival at Joya AB in Arequipa on 7 November 1996. (Peruvian Air Force)



Still unassembled, the first pair of MiG-29S delivered to the Peruvian Air Force (the second aircraft is just visible in the centre-left background) are seen in one of the hangars of La Joya AB, Arequipa. (Peruvian Air Force)



One of the two MiG-29UBs assigned to EA.612 on the tarmac at Teniente Coronel Pedro Ruiz Gallo AB in Chiclayo in 1997. (Stenio Bacciocchi)



A MiG-29S parked on the tarmac of GA No.6 in Chiclayo in 1998. The aircraft is armed with two inert Vypel R-27 (NATO reporting name AA-10 Alamo) and four R-73 (NATO reporting name AA-11 Archer) training missiles. (FAP)



The FAP's 'iron fist' during the second half of the 1990s. A Su-22UM leads a formation composed of two MiG-29S Fulcrum Cs from EA.612, as well as a Su-25UBK assigned to EA.112. The Su-22s operated until the end of 2006, when they were switched to reserve status, being withdrawn from service shortly after. (FAP)



FAP 055 was one of the brand new MiG-29SEs purchased from Russia in 1998. While the FAP had requested the purchase of six additional units in order to complete two squadrons, budget restrictions limited the order to just three airframes. (Stenio Bacciochi)



MiG-29Ss and UBs lined up on the ramp of the Teniente Coronel Pedro Ruiz Gallo air base in the city of Chiclayo in early 1997. The FAP received a total of 18 MiGs from Belarusian Air Force stocks at the end of 1996. (Carlos Chávez Cateriano)



On 13 August 2008, the Peruvian government and RSK MiG signed a \$106 million contract for the modernisation of eight of its 19 remaining MiG-29S/SE fighters. Work on these aircraft was completed in the summer of 2012 with the presentation of eight MiG-29 fighters upgraded to the SMP standard, which featured improvements to radar and avionics, simplified maintenance as well as the fitting of a fixed IFRP, increasing the aircraft's time on station. (Carlos Chávez Cateriano)



A line of Canberra B(I)Mk.12 aircraft parked on the tarmac of Capitán Renán Elías Olivera AB in Pisco during late 1997. Lack of budget allocation, along with the aircraft's age and difficulty in obtaining spare parts, led to the deactivation of the Canberra shortly after the turn of the century. (Stenio Bacciocchi)

Bibliography

- Comando de Educación y Doctrina, *Apuntes de un Conflicto, Cenepa 1995* (Quito: Centro de Estudios Históricos del Ejército, 2014).
- COMOP-FAP, *Legajo de Operaciones durante el Conflicto de 1995* (Lima: COMOP-FAP, 1995).
- Green, W. & Fricker, J., *The Air Forces of the World* (London: MacDonald, 1958).
- Guevara y Moyano, I., *Latin American Fighters: A History of Fighter Jets in Service with Latin American Air Arms* (Houston: Harpia Publishing LLC, 2009).
- Hagedorn, D., *Latin American Air Wars and Aircraft, 1912-1969* (Crowborough: Hikoki Publications Ltd, 2005).
- Idrovo, H., *Fuerza Aérea Ecuatoriana, Historia Ilustrada 1910-1999* (Quito: Editorial Ecuador, 1999).
- Jones, B., *English Electric Canberra and Martin B-57* (Ramsbury: The Crowood Press Ltd, 1999).
- Muñiz, M., *Los helicópteros en el cielo de Quiñones* (Lima: IEHAP, 2014).
- Perkins, J., *Confessions of an Economic Hit Man* (London: Ebury Press, 2005).
- Tincopa, A., *Air Wars Between Ecuador and Peru, Volume 1: The July 1941 War* (Warwick: Helion & Co., 2019).
- Tincopa, A., *Air Wars Between Ecuador and Peru, Volume 2: Falso Paquisha! Aerial Operations over the Condor Mountain Range, 1981* (Warwick: Helion & Co., 2019).

Notes

Chapter 1

- 1 A *hitos* is a border landmark.
- 2 Known as Tiwinza to the Peruvians.

Chapter 2

- 1 S-Band 3D early warning and fighter control radar designated as Type 94 in the Royal Air Force. The antenna was fitted with a 12×12-metre single curved parabolic reflector. It used the principle of frequency scanning phased array, producing a pencil-beam that scanned in elevation from 0–30 degrees. The transmitter used a traveling wave tube followed by a klystron power amplifier. The transmit pulse was a linear frequency modulated pulse of 36 µs length with a saw-tooth-like frequency shift of 140MHz. In the receiver, this frequency range was divided into eight frequency channels, each of which was responsible for a range of elevation angles.
- 2 The *Consejo de Defensa Nacional* serves as a coordination, advisory and consultative body to the Peruvian prime minister in defence matters as a permanent entity, and is part of the Inter-Ministerial Defense Commission. Its objective is to assist the president in the management of armed conflicts and of crisis situations involving the country's defence, as well as the functions that are proper to the president in this area.
- 3 C. Malpica, *Pájaros de Alto Vuelo: Alan García, el BCCI y los Mirage* (Editorial Inca, 1993).
- 4 The Mirage 5P was known as the Mara in FAA service.
- 5 Identified with serials FAP183, 185, 186, 102–107 and 188.
- 6 Avions Marcel Dassault-Breguet Aviation was renamed as Dassault Aviation from 1990 onwards.
- 7 J. Villena, personal interview (8 August 2020).
- 8 The *Declaración de Santiago de 1952* was a six-point document issued by the governments of Chile, Ecuador and Peru aimed at the defence of maritime resources within 200 territorial miles. It did not have the characteristics of a boundary treaty.

Chapter 3

- 1 Eco-Papa is Ejército del Perú in aviation jargon.
- 2 The “Y” was a bifurcation of footpaths leading to Cueva de los Tayos and Tiwinza.
- 3 ZAB (*Zazhygatelnaya Aviatsionnaya Bomba*; incendiary aircraft bomb) is the denomination of a series of weapons which include a range of unitary incendiary bombs as well as cargo munitions. The RBK-250 ZAB-2.5 has a nominal weight of 250kg (hence the ‘-250’ designation), with an actual ready weight of approximately 194kg. It is 1,467–1,492mm in length, with a 325mm body diameter and a wingspan of 410mm. The bomb contains a 700g separation/ignition charge. The RBK-250 ZAB-2.5 cargo munition dispenses 48 ZAB-2.5 submunitions upon operation. The ZAB-2.5 sub-munitions are ignited upon ejection from the cargo munition and fall burning through the air.
- 4 *Vistazo* magazine, Issue 660, February 1995.

Chapter 5

- 1 A. Mladenov, *Su-25 Frogfoot* (Oxford: Osprey, 2013), p.42.

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Born in Lima, Peru, in 1977, Amaru Tincopa is a graduate in law. He began researching and publishing on the Peruvian and Latin American military aviation history quite early. His first book, covering the deployment history of the Aeroplani Caproni and that Italian company's endeavour in Peru, was released in 2003. He has since published a dozen additional titles in Argentina, France, and the United Kingdom and is working on others. Amaru Tincopa is currently cooperating with numerous renowned military aviation history magazines around the world. This is his fourth book in the Latin America@War series.